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The NEW YORK SOCIETY OF SECURITY ANALYSTS, *Inc.*

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Integration.....

Even before our Company commenced operations in 1924 we were aware of the problems concerned with adequate supplies of raw materials. As public demand for our products was created and we steadily enlarged our productive capacity, these raw material problems became more acute. Since it was neither reasonable nor sound to expect an outside supplier to invest huge sums of its stockholders' money for the benefit of a single customer, it became necessary for us to develop our own production facilities for a part of our basic raw materials.

After many years of research and chemical engineering development we brought into operation our chemical plant in Bishop, Texas, where a substantial part of our requirements of basic chemicals are produced. Additional chemicals are sold to many industries. Apart from the expansion of other activities that has been made possible by this plant, shut downs of our yarn production facilities have been avoided when operations have been interrupted at the plants of our suppliers. A cessation of operations at our yarn plants becomes a serious condition for us and for our customers, most of whom are small concerns.

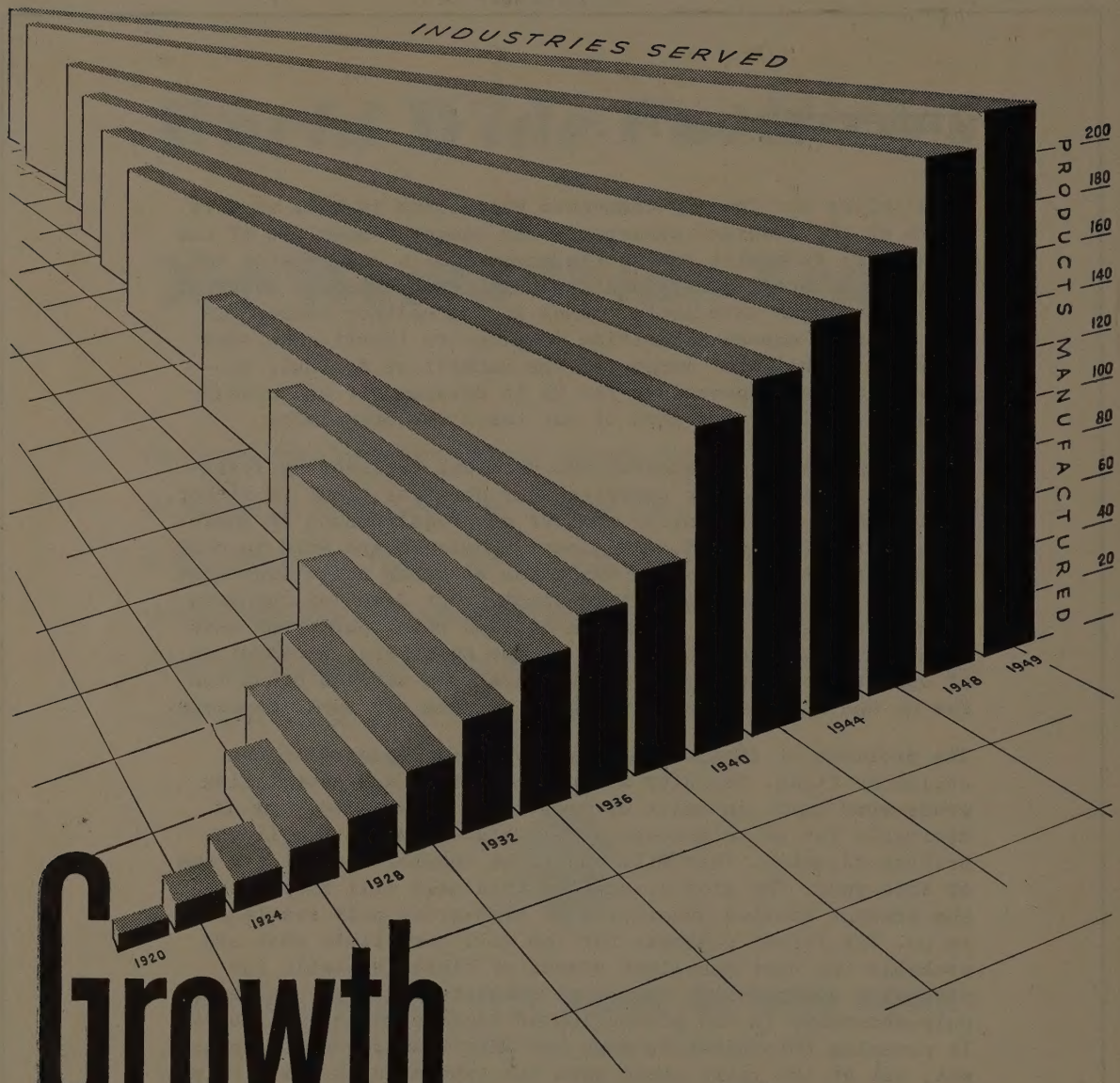
The problems of chemical supply have been repeated in the cellulose field. Scarcity of cotton linters and acetylation grade wood pulp, in spite of very high prices, has made it desirable for us to proceed with a high-grade pulp mill in British Columbia. This mill should be completed about the end of this year. The production from this mill will supplement the present limited quantities of high-grade pulp available to us. The forest reserves for the mill constitute what are probably the most excellent stands of timber suitable for producing economically the large quantity and high quality of pulp necessary in the production of acetate yarns and fibers. In planning this plant we were not only thinking of the present, but of the years ahead when the type of high-grade pulp necessary for our operations may be in still greater demand and even shorter supply.

Together,these two plants should facilitate continuity of operations in our yarn and plastics plants and make possible steadier employment of our people. Integration, in brief, should provide a better balance of operations and promote stability, not only in our Company's business but also in the economy of our country, thereby providing a better standard of living for the people.

Harold Blanchard

President

CELANESE CORPORATION OF AMERICA, 180 MADISON AVENUE, NEW YORK 16



Growth

Commercial Solvents in 1920 made three products serving two industries. Today, using both biologic and synthetic production methods, CSC makes over 200 products which serve every major industry. Some of these products are bacitracin, penicillin, riboflavin, ethyl alcohol and derivatives, acetone, dry ice, butanol and derivatives, formaldehyde, methanol, amines, nitroparaffins, feed supplements, benzene hexachloride, ammonia . . . PEAK® and NOR'WAY® Anti-Freeze.

CSC

COMMERCIAL SOLVENTS CORPORATION

The Analysts Journal

FIRST
QUARTER
1950

VOLUME 6
NUMBER 1

Federation Convention March 2

THE THIRD ANNUAL CONVENTION of the National Federation of Financial Analysts Societies will be held at Hotel Statler in New York on Thursday, March 2, 1950. The entire affair will be held at the hotel, with no part of the program downtown.

The complete program is not available as this is written, but circulars will be mailed to all societies about February 1. The general scheme of the gathering will be the scheduling of nine industry or special subject forums, a noon stock market forecasting luncheon, and a dinner meeting addressed by a speaker of national reputation. There will be three concurrently running forums in the morning, and two forum hours, each with three choices, in the afternoon. The concurrent forums will be so arranged as to avoid, so far as possible, conflicts of analyst interest. The Second Quarter issue of the ANALYSTS JOURNAL will contain the complete proceedings of the convention.

Present plans call for the entire program to be sold as a package at $12. Those who do not buy the "package" will not be eligible to attend any of the forums or the noon stock market forecasting session. Dinner tickets will be sold separately at $8 each; but those who buy the "package" will be admitted to the dinner without further fee.

The program will be under the direction of Jeremy C. Jenks of Baker, Weeks & Harden. As in past years, Helen Slade will have charge of tickets and reservations. Forum subjects include The Petroleum Industry, The Building Industry, Utilities, Rails, Outlook for Farm Buying Power, Management of Trust Funds by Banks, Chemicals, Insurance, Banks, and Automobiles.

In an effort to make the program of maximum usefulness, speakers will be strictly limited as to time, and emphasis will be placed on presenting expert analysts.

Lucien O. Hooper

Rates per day for rooms at the Hotel Statler are as follows:

Room and bath for one: $4.50 to $8.50.

Double bedroom with bath for two: $7 to $10.50.

Twin bedroom with bath for two: $8 to $14.

Persons wishing to reserve rooms should contact Mr. Lawrence de Frances, Hotel Statler, Seventh Avenue and 33rd Street, as soon as possible.

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Editorial communications should be addressed to Helen Slade, managing editor, 400 East 57 Street, New York 22, N. Y. Neither the Society nor the editorial staff is responsible for the facts or opinions contained in articles appearing in THE ANALYSTS JOURNAL.

Annual subscription price for four issues is $4; single copies are $1.25. Checks should be drawn to the order of THE ANALYSTS JOURNAL and forwarded to John Kalb, business manager, 25 Broad Street, New York 4, N. Y.

Our Authors

HAROLD H. YOUNG is a partner of Eastman, Dillon & Company, working with public utility securities. He did undergraduate and graduate work at Brown University and began in the investment field with a Providence firm in 1925. He came to New York in 1943. He writes regularly on utility securities for the *Investment Dealers' Digest* and other publications and gives a lecture course on current developments in utilities at the New York Institute of Finance.

WALTER K. GUTMAN has been a member of the analytical research staff of Goodbody & Company for several years. He has had articles in many leading financial magazines, including *Barron's, Iron Age,* and the *Nation,* and specializes in steel chemicals, and housing. One of his major interests is economy psychology. He was graduated from Bowdoin College and took graduate work at Yale. He has been on the staff of several journals.

R. W. STORER, assistant vice-president of the Mellon National Bank and Trust Company, attended Harvard Business School and did statistical research with Kidder, Peabody, & Company and Tri-Continental Corporation until 1933. He subsequently headed the United States investment activities of the Phoenix London Group of insurance companies. In 1945 he joined the investment department of the Union Trust Company of Pittsburgh, which later merged with the Mellon National Bank to become the Mellon National Bank and Trust Company.

OWEN ELY is financial editor of *Public Utilities Fortnightly* and has written for a number of financial and trade magazines. He was graduated from Hamline University and later studied economics at Syracuse, Michigan, and New York Universities. After four years in the president's office of the New York Central Railroad, Mr. Ely entered statistical work in Wall Street and is at present associated with Carl M. Loeb, Rhoads & Company.

DONALD B. MACURDA is associated with The First Boston Corporation in senior capacity. For the past three years he has been head of industrial research at Clark, Dodge and Company, specializing in chemicals, steels, and light metals. He attended Bowdoin College and started his investment career in Boston with Estabrook & Company, serving in both their Boston and New York offices in various capacities for seventeen years.

WARREN WELLS is a free lance writer specializing in financial and technical articles. His writings have appeared in *Barron's, Boston Business,* and other publications. He received a degree in electrical engineering from Cooper Union. During World War II he served as an electronics and public relation officer in the Signal Corps of the U. S. Army.

FRED J. RAFAEL is a research consultant, specializing in the field of wool. He has analyzed its various phases from the raw material to retail sales, has completed many studies on wool and written reports on them. He was formerly with Batten, Barton, Dustine & Osborne, and later served as head of the textile unit of the Econometric Institute.

On Orchids and Onions

ANALYSTS BORN IN NEW ENGLAND, if they are old enough, will remember the late Newton Newkirk's *Bingville Bugle,* an alleged weekly newspaper in rural setting, formerly published regularly in the comic section of the *Boston Sunday Post.* The editor of the *Bingville Bugle,* for want of something else to print, often complained about the complaints of his paying and nonpaying subscribers. His usual procedure was to abuse the abuser and answer criticism with invective. Both in debate and journalism, that's always the best thing to do when one is sure of the justice of the indictment against him.

The editors of the ANALYSTS JOURNAL have been criticized. That shows that people read the publication even when they don't like it. So we refuse to be squelched without some further ceremony.

Perhaps if we state our case, the readers, who are the judge and jury, will be able to arrive at a decision as to whether we are guilty or not guilty of nonfeasance, misfeasance, or malfeasance in these offices to which we were elevated in a process remotely related both to democratic procedures and to a modern coup d'etat. You see we are not quite sure how we got this way in the first place!

Let's take the more heinous of the crimes first. Someone connected with the ANALYSTS JOURNAL certainly was guilty of a malfeasance in the first degree, when, recently, we had a distinguished graduate of a college at Cambridge identified as an alumnus of Howard College. The chap really was miffed, and we could not get him to share our boisterous and improvised sense of humor. Accidents happen on the best linotype machines. This time the human element failed somewhere along the line—an error was made! We are sorry and hope this particular mistake won't occur again (partly because the writer of this editorial went to Harvard himself.)

As to our misfeasance, some of it is due to listening too much to the babel of voices we hear. We were told in the beginning that the ANALYSTS JOURNAL should be a publication for the "festering of analytical techniques"; and one most worthy and accomplished editor quit the job because he felt the sheet was going "lowbrow" on him. Actually he could not develop enough really original analytical technique copy to fill four numbers a year, and he had to fill in (fortunately) with some stuff that really was useful and had a popular appeal, especially with our less educated and more numerous society membership.

But we always had an inferiority complex about the fact that we were short on analytical technique and long on a more popular approach, and recently some copy came in (several stories at once—it never rains but it pours) that looked like an answer to our intellectual prayers. It was full of higher mathematics, which none of us understood too well—so we consulted someone who did not know about the kind of copy the *American Statistical Journal* prints and our adviser commented that the equations were chaste and beyond reproach. So to make a long story short, we published the articles to give the ANALYSTS JOURNAL the caste it was alleged to lack.

Our New York readers, more accustomed to things they don't understand, took it lying down and didn't murmer; but Boston and Philadelphia, which cities we expected to be impressed with erudition, not only complained about the deterioration of editorial policy but were unkind enough to laugh at both our appreciated authors and the editors themselves. Politely but firmly, it was suggested that the ANALYSTS JOURNAL come back to earth and publish things useful and practical. All of this made us feel like a ward politician, after the majority has discovered that he has yielded to an illegitimate minority pressure group. It was misfeasance, not malfeasance. It was willfully doing wrong with intent to please. We knew what was right all the time. People in public life learn slowly and only by painful experience.

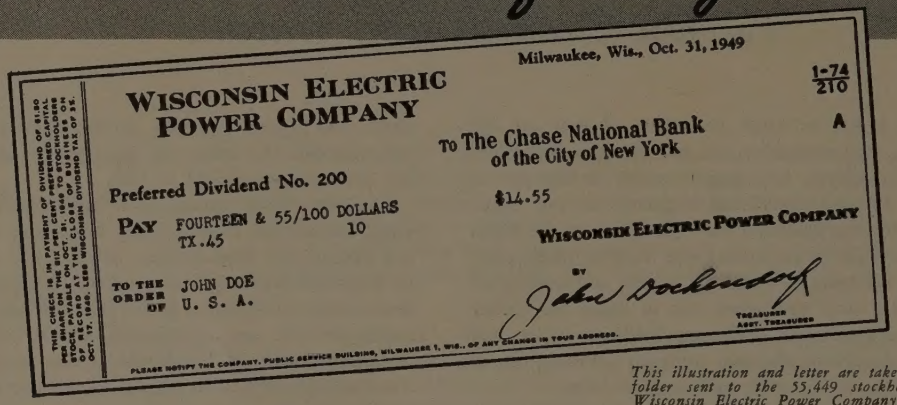
Our most common sin, however, has been nonfeasance. That's a sin that gets all of us, especially lazy editors. Too often, and we are deadly serious about this, we have been tempted to pick and choose from the copy voluntarily offered instead of going out and asking for what you readers really wanted. Frankly, the free will offerings of the profession are about as munificient as the Sunday morning collection at a backwoods church in the Deep South. The analysts who really have a contribution for the profession seldom set it down on paper unless urged and urged again and again; and the ones who have the time to write unsolicited articles often have very little to say. We have not been aggressive enough in making busy analysts still busier, although we did a pretty good job of it in the Fourth Quarter "Industry" issue. We are going to try to do better in the future, so please be patient.

Sometimes we feel inhibited about publishing too many good stories by the same old people, and there always is a temptation (even if other things are not equal) to accept an out-of-town manuscript, or an offering by a new author. Once, early in the days of the publication, we rejected a top economist's offering on the grounds that the ideas he presented were slightly daft; and the piece was printed elsewhere at a fee of $1,000 to the author. That wasn't so good! Another time, an experienced staff member sent a complete outline of a projected story full of his own ideas that had been assigned to one of the most respected and experienced analysts in the country, and the V. I. P. quite properly returned the outline saying that he felt incompetent to write the contribution.

So we might go on, progressively losing your confidence. What we want to say is this: we are proceeding by trial and error to make a worth while professional journal. If you are critical of us, please bear in mind that we are even more critical of ourselves.

LUCIEN O. HOOPER

200TH CONSECUTIVE quarterly dividend



Milwaukee, Wis., Oct. 31, 1949

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To The Chase National Bank of the City of New York

Preferred Dividend No. 200

$14.55

PAY FOURTEEN & 55/100 DOLLARS

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WISCONSIN ELECTRIC POWER COMPANY

BY

TREASURER

ASST. TREASURER

TO THE ORDER OF JOHN DOE U. S. A.

THIS CHECK IS IN PAYMENT OF DIVIDEND OF $1.50 PER SHARE ON THE SIX PER CENT PREFERRED CAPITAL STOCK, PAYABLE NOV. 1, 1949 TO STOCKHOLDERS OF RECORD AT THE CLOSE OF BUSINESS OCT. 17, 1949. LESS WISCONSIN DIVIDEND TAX OF 3%.

PLEASE NOTIFY THE COMPANY, PUBLIC SERVICE BUILDING, MILWAUKEE 1, WIS., OF ANY CHANGE IN YOUR ADDRESS.

This illustration and letter are taken from a folder sent to the 55,449 stockholders of Wisconsin Electric Power Company.

October 29, 1949

TO OUR STOCKHOLDERS:

Today we are mailing the 200th consecutive quarterly dividend check to holders of our Six Per Cent Preferred Capital Stock.

Whether you hold shares of that issue or of other issues of our stock, I am sure you will be interested in this occasion because it serves to emphasize the stability of our Company and our business.

In addition to having paid dividends quarterly without interruption for 50 years on the non-callable 6% preferred stock, the Company paid dividends regularly on other issues of preferred stock formerly outstanding and has paid regular quarterly dividends on the currently outstanding Serial Preferred Stock, 3.60% Series, since date of issue. Common Stock of this Company was first issued to the public in May, 1940, and dividends on such stock have been paid each year since that date.

As of September, 1949, the Company had 1,134 holders of the Non-callable Six Per Cent Preferred Stock, 11,473 holders of the 3.60% Serial Preferred Stock and 42,842 Common Stockholders, located principally in Wisconsin but also in every other state in the Union. In a circular offering some of the shares of the Six Per Cent Stock for sale in 1901, William Nelson Cromwell, then President of the Company, reported the population of Milwaukee and tributary territory to be 350,000, and gross earnings of the Company for 1900 as $2,204,536 which consisted principally of transportation department revenues. In concluding his statement, Mr. Cromwell predicted continued growth of the Company's business.

How right he was! Population of the area served by the Company now is 985,000, and operating revenues for 1948 were $45,393,061, derived from electric and heating operations and not including revenues of the transportation subsidiary amounting to $17,080,383.

Startling, too, are other comparisons. When the Company was formed, it had two power plants with a combined generating capacity of about 4,150 kilowatts; now we have five plants with a combined capacity of 731,500 kilowatts and an 80,000 kilowatt unit under construction. Electric output for 1900 was 24,095,961 kilowatt hours, and for the 12 months ended August 31, 1949, it was 3,089,015,401 kilowatt hours, or 128 times as great. Records do not show the number of customers at the turn of the century, but at the end of 1910 there were 12,151 as compared with 293,622 as of last August 31.

In 1941 the subsidiaries, Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company, were acquired, substantially extending the scope of the Company's activities. Results of their operations and of those of The Milwaukee Electric Railway & Transport Company, organized in 1938 to take over the Company's transportation business, are included in our annual reports, as you no doubt have noted.

In the last 20 years our Company has increased its generating capacity from 285,400 kilowatts to 731,500 kilowatts and has nearly trebled its output of electricity, to cite only two instances of its growth and progress.

I'm sure you feel as I do, that it's most gratifying to be part of an industry and member of a company whose record of achievement has been so fine and whose outlook is so encouraging.

Respectfully yours,

G. W. VAN DERZEE
President

SP-6-50

WISCONSIN ELECTRIC POWER COMPANY

The Electric Company • Milwaukee, Wisconsin

The Desirability of Public Utility Equities

HAROLD YOUNG

"WOULD YOU BE INTERESTED in a 7% first mortgage bond of an electric light and power company at 95 with a 20% bonus of common stock?"

If this question were propounded to the reader, he would surely dismiss it as having been asked in a spirit of levity. However, if we turn the clock back for about forty years, we would find such a proposition being made in all seriousness. Strange as it might seem today, the investment salesman who presented such a proposition was very frequently accused of offering securities that were not appropriate for the conservative investor.

In those days the railroad and industrial securities held the limelight. Among public utility issues, stock and bonds of traction companies held some favor. In fact, the best way to get a market for securities of light and power companies was to have the electric operations as a part of a trolley enterprise. Only recently a utility executive described to me one of his early assignments which was to build quickly a few miles of trolley line in a southern community so that the power company by which he was employed would command favorable attention in the financial community.

It is interesting to contemplate what has happened in these intervening years to make public utility securities prime favorites among corporate issues. Probably the outstanding characteristic of the industry which has won the confidence of the investing public has been the consistent growth in business which has been of the year-in and year-out variety. We show in Table 1 by five-year intervals the increase from 1920 in the generation of electricity by all plants, both privately and publicly owned, which contributed to the public supply. Also shown is the total generating capacity in operation in the various years.

TABLE 1. GROWTH IN OUTPUT OF ELECTRICITY

Year	*Generation, million kw-hr*	*Plant Capacity, thousand kw-hr*
1920	39,405	12,714
1925	61,451	21,472
1930	91,112	32,384
1935	95,287	34,436
1940	141,837	39,927
1945	222,486	50,111
1948	282,594	56,464

Source: Edison Electric Institute.

TABLE 2. GROWTH IN GAS SALES
Millions of Cubic Feet

Year	*Natural Gas*	*Manufactured Gas*	*Mixed Gas*
1932	775,499	324,414	60,093
1935	1,010,088	303,710	79,071
1940	1,406,061	324,103	101,166
1945	2,155,894	388,606	141,996
1948	2,894,650	442,154	148,102

Source: American Gas Association.

Figures for the gas industry do not run back so far as those for the electrical industry, and comparisons are somewhat complicated by the fact that there have been shifts in recent years in many communities from sales of manufactured gas to the distribution of natural gas or mixed gas. In Table 2 we give some statistics indicating the growth of gas sales beginning in 1932.

We find that there has been also an impressive increase in the number of telephones in use throughout the United States. The Bell System reported 8,133,759 installations at the end of 1920; 15,187,296 at the end of 1930; 17,483,981 at the close of 1940; and 31,364,493 in service as of December 31, 1948.

To be sure, there has been a growth in population of this country over the years, but the increase in business of the utility companies has been proportionately much greater than any increase in population figures, as inspection of the statistics we have inserted will reveal. In the electrical industry it is possible to trace the year-by-year increase in usage per domestic customer as one interesting sidelight on the growing demands for service. In 1926 this average consumption was only 430 kw-hr, whereas in 1948 it had grown to 1,563 kw-hr, and the 1949 figure promises to approach 1,700. Furthermore, in only one intervening year, 1933, was there a decrease in this average figure, and that was only 1 kw-hr, not worth mentioning except in the interests of accuracy. Average consumption by commercial and industrial customers has also trended upward sharply, but not with the annual regularity of the domestic figure.

At the same time that the consumption of electricity has been increasing, its cost to the consumer has been decreasing. The Edison Electric Institute cites an average revenue for all electricity sold for residential use amounting to 11.2 cents in 1906, 7.45 cents in 1920, 6.03 cents in 1930, 3.84 cents in 1940, and 3.01 cents in 1948.

PUBLIC UTILITIES INTEGRAL PART OF LIVING

Public utility services today are an integral part of our living. They are not in any sense luxuries but rather necessities on which we greatly depend. Any interruption of service for more than a momentary period poses real problems. We remember in the days of our youth that kerosene lamps were kept ready for use whenever the electric service was cut off, and in this eventuality nothing more serious was involved than to light and use the kerosene lamps until service was restored. Today, however, electricity is depended on for many other uses than just lighting; continuity of heating, refrigeration, and other essential services is tied in with a steady supply of electricity.

From the standpoint of the investor, increased use of utility services with revenue derived from a number of customers approaching the total number of families in the country gives big protection. Furthermore, use of electricity and gas by commercial establishments and in industry has been stimulated by new developments of many kinds.

Growth in business has been accompanied by improvement in the financial strength of the Nation's utility companies. Provision of gas and electrical service in the early days was largely a local affair. Companies were organized to take care of the needs of individual communities. Particularly in the electrical field, the next development was the consolidation of some of these operating companies as it was found that significant economies could be realized by putting companies together. Contributing to this trend were technological improvements in the art of transmitting electricity over long distances, a feat that was not economically possible in the early days.

The next step beyond the combination of operating companies was the formation of holding companies. It was believed that these were justified as media for centralized operation and financing of the various subsidiaries, and many of the systems that were built up made important contributions to their constituent companies in this respect. Unfortunately, however, certain abuses arose in connection with the use of the holding company idea. One of them was a tendency in some quarters to have too much leverage in the financial structures, so that a drop in business such as accompanied the 1932 depression caused financial trouble for some of these systems. Even before that time, however, abuses were apparent so that, during the Coolidge administration, the Federal Trade Commission was authorized by the United States Senate to make a study of holding company practices.

HOLDING COMPANY ACT AND SEC

This study by the Federal Trade Commission resulted in the passage of the Public Utility Holding Company Act and its administration by the Securities and Exchange Commission. There has been a reversal of the earlier trend toward combination of operating companies in holding company systems, and in the last few years many of these systems have gone out of business, and an increasing number of utility companies have become independent enterprises. In the recent past, figures have been released by the SEC revealing that in the period from June 15, 1938, to June 30, 1949, a total of 2,152 companies were subject to Commission regulation under the Holding Company Act at one time or another. Of this number only 642 companies were still subject to the statute on June 30, 1949, and the number is still diminishing.

During the years that the SEC has been administering the Holding Company Act, there has been a definite change for the better in the financial health of the utility companies. Sharing the credit with the SEC are the Federal Power Commission, the various state commissions and, it should be added, the managements of the utility companies themselves. Since the days of financial excesses in the industry, management has passed largely into the hands of a new group of men more sensitive to the need for sound financial practices if they are to command the confidence of the investing public and thereby attract the large amount of capital necessary to care for the increased demands of customers.

A detailing of all that has been done to improve financial soundness would be in itself subject matter for an article of this sort. Probably one of the most important accomplishments has been the establishment of conservative financial structures. The SEC has sought to establish minimum common stock ratios of 25%, and, when that has not been immediately feasible, dividend restrictions have been imposed until the 25% figure has been attained. At the other end of the structure, a limit of 50% in debt has been the goal set. Force of public opinion has tended to make even those companies not under SEC jurisdiction respect these ratios since it has been generally recognized that they are desirable.

Accounting practices have improved. The Federal Power Commission has been a leader in the insistence on original cost accounting for property and plant. Under this concept, plant is carried on the books at the cost to the persons first putting it into public service. Write-ups through appraisals must be promptly eliminated when studies are completed, and excess of cost to present owners over original cost must be eliminated by amortization over a period of years. The use of original cost is a controversial matter, but this much may be safely said—the utility investor of today is at least assured that, when he looks at a balance sheet, the asset items he sees represent honest-to-goodness investment in the enterprise.

Another constructive trend has been toward charging of more adequate depreciation. A number of the holding company systems that got into trouble in the early 1930's had been notoriously remiss in charging depreciation that was entirely too low.

The SEC has been instrumental in correcting inequities in voting power. It has also corrected abuses that grew out of the use of service companies by various holding company systems where the profits from such companies inured to a limited group of the management or controlling interests.

TREND TOWARD LOWER INTEREST RATES

At the same time that regulatory authorities have been doing their constructive work, there has been a decided trend toward lower interest rates for all kinds of obligations. Public utility companies have shared in the benefits of this trend and have been able to do new financing on an advantageous basis as well as to refund previously outstanding securities. In some companies, refunding has been accomplished not once but a number of times.

In an address before the Edison Electric Institute in May 1949 the then chairman of the SEC summarized some of the improvement in a ten-year period in the utility industry as follows:

> More than $1,300 million of inflationary items have been eliminated from plant accounts; ratios of depreciation reserves to gross property are up 150%; interest coverage has increased from 2.9 times to 4.3 times, and coverage of all fixed charges and preferred dividends is up from 1.9 to 2.7 . . . While total debt and preferred stock has been increased by less than 4%, generating capacity has been increased by 50% and generation is up 150%.

It might appear an obvious conclusion to somebody who was studying the record of the last few years but who was not familiar with security prices that securities of utility companies must have been showing sharp improvements in value to reflect all this progress. To be sure, yields on util-

ity bonds are near record low figures. The returns on preferred stocks are not so low as they were in 1946 but nevertheless have been trending lower in the recent past and are much under those of years ago. Strangely enough, however, utility common stocks seem not to have shown the strength that a consideration of the facts involved would suggest.

SHOULD SELL FOR TEN TIMES EARNINGS

When we were a neophyte in the investment business some twenty-five years ago, we recall that one of the first rules of thumb taught us was that utility common stocks should sell for about ten times their earnings. At that time utility bonds usually carried 5% coupons, and the going rate on preferred stocks was 7%. Today bond financing is being done for less than 2¾%, and good preferred stocks yield 4% and less. It is still possible, however, to buy utility common stocks at around ten times earnings in many instances, the same level that prevailed twenty-five years ago. This is in spite of all that has been done in the intervening years to improve the quality of utility stocks so that today they represent the finest and strongest equities in the history of the utility industry. A situation of this sort would not appear to make sense.

It is possible to get yields of 6 to 7% on a wide number of utility commons while even some of the best names afford yields of around 5½%. It would seem as if the spreads between the yields on bonds and preferreds and the yields on the commons are probably too high. Some observers point to recent improvement in utility stock prices and raise the question as to whether this has not brought stocks into line. We believe that is not the case. If the market action of the utility group be compared with that of other representative groups of stocks, it will be found that it is still behind the parade. For example, the SEC publishes monthly a statistical bulletin, one feature of which is a series of indexes of 27 groups of common stock prices, using January 1939 as 100. It will be found that public utility operating company stocks are among the laggard groups. The same observation is to be made from the Standard & Poor's Indexes of the Security Markets. As of December 14, 1949 and using 1935–39 averages as 100, the index was 133.3 for 416 stocks combined, 141.1 for 365 industrials, 101.2 for 20 railroads, and only 104.3 for 31 utilities.

If utility stock prices do not fully reflect the record of progress and improvement which we have touched on in hasty fashion, then we must logically arrive in our thinking at one of two conclusions—that the future for the industry appears less brilliant than the past or that, in due course, better recognition is to be accorded these equities. We would like to present the viewpoint that the future for the industry is indeed promising and that there is good expectation of heightened interest in these shares at some later date.

It is generally recognized that the public utility industry is one of the few carrying on a construction and expansion program in almost unabated volume. For example, recently released figures of the Edison Electric Institute show that the business-managed electrical companies installed 5,394,403 kw of new generating capacity in 1948. The schedule for 1949 contemplates 5,570,436 kw of new capacity, with programs announced for 5,054,550 kw in 1950 and 4,847,000 kw in 1951. Although it would appear that 1949 might be the peak year for the time being, projects on foot nevertheless promise to exceed the 1948 volume by a wide margin in the years immediately ahead.

This construction program is going ahead with vigor because the growth in the electrical companies' business continues at a high rate with no end of the growth in sight. In fact, the contrary is the case. New outlets for electricity are being developed all of the time, and more universal use of present applications is the order of the day. In the household field, there is more demand all the time for the many appliances which make the lot of the housewife an easier one and which contribute to generally pleasant living. It should be borne in mind that only a relatively few items, such as radios and electric irons, appear to be approaching the saturation point as far as usage is concerned, and even here there is opportunity for increased use with growth in population. Construction of new homes invariably means that electric appliances are installed in volume that would not have been dreamed of a few years ago.

Some of the relatively new appliances have such low saturation as to suggest a very wide field for further promotion. With all the fanfare there has been attending the installation of television sets, for example, the percentage of homes that have these sets is still very low indeed. There should be a continued increase in the number of these sets in operation, as mass production and competition of manufacturers bring the prices down and as programs become more widely available in the different areas of the United States. Other appliances with relatively low saturation but with promise of increased demand include ironers, clothes dryers, roasters, home freezers, attic fans, and electric bed blankets—to mention only a few. Should the heat pump, a device for home heating in winter and cooling in the summer, ever become popularized, the leap in demand for electricity could approach the fantastic. This device is still in the experimental stage although installations have been made by many companies with results reported generally favorable, more especially in the warmer parts of the country.

The air conditioning load is proving to be a big stimulus to increased revenues in the commercial field. Competition plays into the hands of the electrical companies on this item because, when air conditioning is installed in stores, theaters, office buildings, and similar spots, competing enterprises find themselves in the position of having to put in similar facilities or see their customers go to the places where there is air conditioning.

HIGHER STANDARDS OF LIGHTING RECOGNIZED

Higher standards of lighting are being recognized in both the commercial and industrial fields. New uses for electricity are being worked out regularly by manufacturing enterprises as employers seek to hold down their labor costs by mechanizing every operation possible. Of course, electric motors come into play as a part of this program. There has been almost a year-by-year increase in the annual consumption per worker of electricity in manufacturing establishments, and this trend promises to continue.

Another development that is building load for the electrical companies is a change-over to central station service by factories and institutions which have formerly operated their own isolated power plants. This process is a gradual but, nevertheless, a continuing one. As the isolated plants reach the replacement stage, it is especially likely that the electrical companies will have opportunities to step in and take over. Cost of operating isolated plants have mounted rapidly, while the electrical companies, with production in units of large size, have realized many economies.

REVOLUTION IN GAS FIELD

Turning to the gas field, we find there that there has been a mild revolution with the discovery of huge natural gas reserves and the perfection of processes for piping this gas to areas that previously have depended solely or primarily on manufactured gas. The gas industry has been very aggressive in its promotion programs, and, although gas lighting, with which the industy started, passed into the limbo years ago, gas is very much in demand wherever the element of heat is involved—for cooking, water heating, house heating, and industrial applications involving heat. The rise in price of both coal and oil in recent years has been a big help to gas companies in developing their heating load. In fact, we have seen the unusual situation of gas companies having to refuse installations that were offered to them until more adequate supplies of gas could be made available.

One of the best clues to the trend of the gas business was a release from the Gas Appliance Manufacturers Association, made available as of December 31, 1949. This release was made up on the basis of a poll of 550 gas appliance and equipment manufacturers, and it indicated that sales of these items in 1950 will exceed 1949 totals. It was indicated that sales in every division of the industry would exceed prewar averages and that in some classifications business would be more than double prewar averages. Analyses of manufacturers' estimates indicate an expected 20 to 30% increase in gas range sales over 1949. Greater increases are expected in the sales of incinerators, refrigerators, and clothes dryers, all comparatively new gas appliances. Sales of gas-fired central heating equipment are expected to be 30% over 1949, and sales of floor furnaces and direct heating equipment are expected to be about 20% greater. It might be noted that backlogs of orders for central heating equipment were reported double those of January 1, 1949, while unfilled orders for conversion burners are nearly 20 times greater than a year ago. Automatic gas water heater sales, at the rate of three times the prewar average in 1949, are expected to make substantial gains. Thus the pattern seems set for impressive growth in business in this field.

Prospects for higher volume of business are not enough. There must also be opportunities for higher earnings for the stockholders. There was a period a little while ago in which some of the utility companies were caught between rising costs on one hand and delays in getting compensatory rate increases on the other. Some people who viewed the situation superficially believed that for this reason the shares of companies in the industry should be avoided. Such a view turned out to be definitely shortsighted and the difficulties were corrected without undue delay. Present indications are that earnings for the owners of public utility equities should show a favorable trend.

5% INCREASE IN 1949 REVENUES

The *Electrical World* in a recent number assembled preliminary figures indicating that for the calendar year 1949 total operating revenues for the electrical industry might run about 5% over 1948. On the other hand, the estimate for the increase in gross income (balance after expenses but before fixed charges) was 11%. With the operation of leverage in the capital structures, this should show up in an even higher percentage increase in the bottom-line balance for the common shareholders. For the twelve months ended September 30, 1949, the increase was around 17%, according to Federal Power Commission figures.

Contributing especially to the good improvement in earnings have been the increase in business, lower fuel prices, and use of more efficient generating equipment. The item last mentioned should be explained a bit because it will contribute to further improvement in the earnings picture in the years ahead. During World War II little could be done by the electrical companies to expand their generating capacity because of Governmental restrictions which required priority orders. These were granted only where warranted by strategic reasons. There was a general feeling that after the war there would be a period in which deficiencies in capacity could be made up comfortably, as a big drop in demand from industrial customers was expected. The drop was for a much briefer period than expected, and the load then went promptly on to new peaks. To meet the demands on them, the companies have had to run all available equipment, including a great deal of old and inefficient plant.

The electrical companies have been gradually catching up on equipment installations, and, as new plant has gone into service, important economies have been realized. This new equipment uses much less fuel than the older plants to produce a given amount of electricity, and also there are important savings in number of employees required to operate a plant of given capacity. It is anticipated that for 1949 the average consumption of coal (or its equivalent) will be down to around 1.2 pounds as against 1.3 pounds in 1948. In 1930 the figure was 1.6 pounds, and in 1925 it was 2.0 pounds. Such are the improvements that have been made in the art. New installations are, in general, some of the largest units that thave been used by the respective companies, and further economies are realized from this element of size.

It has been found that, generally speaking, regulatory bodies have been sympathetic toward requests for higher rates when these have been necessary. The principal exception to this statement has been in respect to the telephone companies in the Bell System, and, for that reason this article has not emphasized any possibilities in the telephone field. Another difficulty with which telephone companies wrestle is that wages and salaries represent a much larger portion of revenues than in the electrical and gas industries. Therefore, these companies are much more sensitive to the demands of labor.

Prospects of higher earnings lead also to the promise of larger dividends on the part of many different companies

On this hangs much of the attractiveness of utility stocks. Where returns are generous, as they are today, possibilities of higher payments make the shares all the more desirable. Contributing to higher dividend-paying ability will be the fact that the peak of the construction program appears to have been passed, although much money will still have to be raised in the years ahead. However, there is a growing realization on the part of utility managements that a high dividend payout adds value to their shares. Many companies, accordingly, are adopting a policy of making their dividend disbursements as liberal as possible and raising new equity capital through common stock offerings. This procedure has been more popular than that of trying to retain a maximum amount of earnings in the business to finance the construction.

COMPETITION FOR INVESTOR'S FAVOR

Furthermore, there has developed a realization that each company is in competition in the financial market for the favor of investors, and some companies, which might not necessarily have increased their dividends of their own free will, have been influenced to do so by generous dividend policies of other companies. In short, with better earnings in sight and with managements increasingly conscious of the desire of investors in utility stocks for good dividends, the chances favor better payments in the days ahead.

There seems little doubt that further demand for utility stocks may develop at a time when there may also be some decrease in the supply. The list of large holding companies that are breaking up is growing shorter. By the middle of 1950 it would appear that most of the companies in this category, with one or two notable exceptions, will have completed their programs so that the constant pressure from new stocks coming onto the market from divestments should be materially eased.

On the other hand, not only are private investors interested in utility stocks for the yield they offer and for their general desirability, but many institutions are looking at this field with more favor because of the pressure for more income.

The inauguration of many new pension plans will create a new reservoir of capital for investment. It seems inevitable that more money will go into the equity field, and among common stocks the utility issues seem to have about the most appeal for purchase by institutions. Buying of this type has been in evidence in recent months, and more may reasonably be expected.

In short, we believe that the utility equity field is one that is well worthy of consideration by the conservative investor interested in a good current return with possibilities of enhancement in value of a modest nature as the stocks gain more of the recognition to which they appear entitled.

SOUTHWESTERN PUBLIC SERVICE COMPANY

tion of equity by issue of new common increases total capital costs—and many feel that is not in the interest of present stockholders.

Explain Bases of Ratings

Such, at least, are the opinions of 64 financial a[illegible] tion to mol[illegible] experts fille[illegible] pared by [illegible] eral Publ[illegible] to find ou[illegible] balance sh[illegible] of its stoc[illegible] ance for th[illegible] its attempt[illegible] raising new equity capital and he uncovered a number of attitudes that may represent the reasoning of what he calls "the more sophisticated" investors.

Here are some of their recommendations:

dable if rights are limited, as some recent amendments to utility charters provide. Cumulative voting, on the other hand, they consider of no tangible value to the stockholder.

Depreciation is important to investors, who will think less kindly of [illegible] and [illegible] market value [illegible] there seems to be no relationship.

From the common stockholder's point of view, convertible securities are not a satisfactory financing device. Preferred stocks with sinking fund provi-

par common shares held by Nati Power & Light Co has been reque by the two companies. They pro that Memphis pay the par value reduce its capital the same amoun retiring the shares. Interested per have until Oct 12 to request a hear

"Pay out policy . . . affects a common stock's market price more than any other single item . . ."

—Electrical World
October 8, 1949

GS

[illegible] Corp's [illegible]ers of Ge[illegible]ew York) [illegible]ved final [illegible]s of the the Rochester stock is to be offered to GPU stockholders at $28.50 per share subscription right being at the rate of share of Rochester stock for each 10 sh of GPU stock and the subscription pe to expire Sept 30. (Release No. 9318

Southwestern has raised dividends on its common stock *nine* times since September 1, 1942, when it came into being in its present form.

Common stock dividends have been increased in each of the eight fiscal years to date.

Southwestern has emphasized that earnings belong to the common stockholders, and that the stockholders and the Company are the same.

Southwestern intends to have a dividend rate that can be maintained despite any advance developments that might be anticipated.

Southwestern foresees the continuation of sound, permanent and diversified growth in its service area. The rate of growth may diminish but its permanent character should remain unchanged.

SPS COMPANY

Should We Try to Get Legal Status for Our Profession?

WALTER K. GUTMAN

LEGAL STATUS ADDS DIGNITY to any profession because it is an assurance to the public that the practitioners, whatever their skill and ability may be, are not downright frauds. In some cases this is all the legal status can accomplish. Legal status does not supply the body of knowledge that makes a profession useful, and it guarantees only a small amount of the skill and understanding needed for the accomplishment of professional objectives. Quite frequently there are laymen who have more understanding of law than many lawyers or a better sense of medicine than many doctors. Thus, legal status will not by itself create better security analysts, but it could do one important thing: it could make possible a wider and better application of analytical concepts to security problems.

At the present time security analysts do not frequently come in direct contact with investors and are not often paid directly by investors for their analytical services. In this way we are in an unusual position. Whereas the judgment of a doctor is transmitted undiluted to his patient, and events prove him right or wrong, the judgment of the security analyst is subject to various dilutions. In a brokerage house a vibrant sales approach can considerably alter the implications of a careful analysis; in a bank or trust company the ponderings of an investment committee can dilute the judgment of the analyst. Responsibility and credit are both so widely diffused that it is not easy to assign values to analysis. Moreover since the control of the customer is in the hands of the sales department and the control of the fees in the hands of the corporate officers or brokerage partners, the analyst is in danger of being paid moderately in praise, but adequately in blame.

This weakness in our position may have effects that are almost as undesirable for the investing public and our own employers as for us. If our position is properly understood, legal status for us may be just as desirable to them. All hands may find it advantageous to give our profession a more powerful position.

PURPOSE OF SECURITY ANALYSIS

What is the purpose of security analysis, and why is it a profession? On a nonprofessional basis security analysis has existed as long as securities. Substantial investors have always practiced security analysis. They have always dug into balance sheets, questioned income accounts, assessed markets, examined competitive problems, met the management, and inspected the plants. An investment decision cannot be reached unless the opportunity and its risks are first analyzed.

The historic forces that have created the professional practice of security analysis are (1) the enormous size of our "1950" economy and (2) the growth of the small investor. The stocks listed on the New York Stock Exchange alone have a current market valuation of $73 billion. There are 1,457 stock issues listed on this exchange alone, while the number of investors in all sorts of securities listed or unlisted is estimated at no less than 10 million and possibly as high as 20 million. The biggest investor can no longer personally analyze all the situations he might take an interest in. The small investor can barely take the time to make a thorough analysis of any investment. So both big and small investors have a need for the opinion of an analyst who devotes his full time to this occupation and thus becomes professional. As a result several thousand men and women derive most or much of their income from a study of thousands of securities which they themselves have no way or intention of investing in. It is important to remember however that security analysis as a technique is much older than our profession and that effective security analysis can be done by anyone familiar with business problems and business techniques. Whereas doctors and lawyers talk very different languages and have techniques that are not in the slightest degree interchangeable, businessmen, corporate officers, accountants, and security analysts of necessity talk much the same language, and quite frequently the same man has practiced or practices at the same time several of these arts or professions. The unique quality of professional security analysis is not so much its special body of knowledge but the need investors now have of competent analytical advice covering a large range of investment problems.

Ideally speaking no information or opinion about securities would be publicly disseminated unless it was (1) a company report; (2) information issued by the company to fulfill Government regulations, such as in a prospectus for a new issue; and (3) information and opinions written by a duly qualified and legally authorized security analyst.

At first sight point 3 seems a foolishly radical suggestion, but perhaps on further thought it makes sense. Certainly no one can argue that opinions and information should be broadcasted by unreliable or incompetent people. Therefore some test should be available of the reliability and competence of those who give investment advice. Unscrupulous advice on investments like unscrupulous medical advice can do immense harm. It can do damage to individuals, and, if there is enough of it, it can produce a state of wide national damage. There is a legitimate case, it seems to me, for a restriction of the giving of investment advice to duly qualified personnel.

But why are many dubiously qualified people advising the public now? The answer to this is in the history. Not so very long ago the security business was a small operation, and the ownership of stocks and bonds was pretty much a rich man's experience. The rich are supposed to be able to care for themselves. In past centuries, when doctors were

few and practiced mainly on kings, legal status was not required for them either. Legal status for any profession comes as an outgrowth of the increase in the number of practitioners and the consequent need of a formal screening. Even forty or fifty years ago the investment problem was small enough to be solved on a nonprofessional basis. The broker's function was to carry out the designs of major financial and business interests, not to advise them; banks and trust companies were run by the same dominant interests. It would have been absurd to suggest in the days of the first J. P. Morgan that no information or opinion could be published on securities except that coming from security analysts. When financial titans were dreaming their creative dreams and had the power usually to make their dreams come true—and make nightmares out of the dreams of others—the important point was to follow their leadership. Even in the 1920's when pool operations were ceasing to play a socially useful function and like a decadent art were functioning for the sake of themselves, a major bit of useful information was knowledge of the strength and intention of the pool. But historic changes suggest that the major key to successful investment is careful, conscientious, well-informed security analysis. If security analysis is actually the key to investment success, then it would be for the good of business as a whole to give it a stronger position.

If security analysts achieved legal status and if publication of advice on securities were restricted to them, they obviously would acquire a great deal of power. The only way they would be deprived of power would be to make the standards so lax that they were meaningless. We have little chance of achieving such power over the opposition of those who now control the securities business. Only if those people and interests now dominant think it to their advantage to allow us to achieve power will we get it.

I do not know whether it would be easy or very difficult for us to demonstrate a fundamental community of interest between ourselves and the elements now dominant in the business, but it seems possible. What all of us want is a good solid business. We do not want the sort of business we had for most of 1949, a daily stock turnover on the New York Stock Exchange of less than a million shares and red ink on the ledgers of most brokerage houses most months. And the soberer minds do not want the return in 1950 of a hectic bull market, of three or four million share-days, of buying climaxes or unsound speculation and the inevitable collapse. If "Wall Street" is to remain useful either to those who work or to the country, it must set itself on a solid basis year in and year out.

In my opinion we are not going to have a solid securities business unless the analytical point of view can gain more power. This point of view might gain power without legal status for our members. It is not necessary to be a security analyst officially in order to have the analytical point of view. But legal status would help.

ANALYTICAL POINT OF VIEW

The analytical point of view with us is the same as in all activities where the prime objective is to ascertain the facts and their significance. The analyst in whatever field he operates is primarily excited by coming upon some clue as to the way things really are. He is no different in this respect from an artist or a poet or a scientist; his payoff is in some act of discovery. In the market the confirmation of his discovery is in the action of the security he has described. The analyst cannot have the same control over his media as the artist. However, a wider spread of the analytical point of view would help in giving him control, because a larger amount of the buying and selling would be based on the analytical concept. Let me illustrate.

During December the stock of a certain moderate-sized chemical company was widely recommended. I was one of the recommenders. Nevertheless, I think that these recommendations represented some deviation from a sound analytical viewpoint. An important reason we recommended the stock was that it was selling at a four-year low. This is not too sound a reason analytically, but experience shows that it is often a good practical reason from the trading point of view and from that of producing commissions. Under our present business arrangements it is a tempting reason. The business of the company in the last months of 1949 was substantially better than it had been, which by itself is a good reason. But even at its four-year low the company was selling for over $30 million in the market. To an analyst this simple fact means that business had to improve to justify the "low" December valuation. During the last four years the company had acquired a substantial debt and also powerful new competition in two of its major products. It seems clear that those of us who recommended the stock were tempted by the relatively low price, and also by the general strength of the stock market. The improvement of the company's business served as an excuse to release the analyst's rather severe superego and permitted us to fulfill the urges of our instinctive drives. It will be interesting to see how we come out. In my opinion we have a good chance of realizing some profit because of the simple fact that we are not the only people who will be tempted. Our recommendations were not totally unjustified, and there are times when an unsound attitude does not bring on a hard punishment. However, opportunities are never unique. The money we placed in this issue could have been placed more soundly elsewhere with results, at this writing, at least as good.

If the analytical point of view were more prevalent, such recommendations might be milder, or, to put it another way, not so many customers would have acted on them. Therefore such recommendations would produce less business. One of the weaknesses of the present market is the sales success of low-priced stocks. It is common experience that customers go for stocks selling between $10 and $20, and the temptation is to recommend such issues when there is a reasonable excuse. It is obvious that the analytical point of view is under constant pressure when the payoff is via production of commissions. Since the securities business is a practical business, the payoff must necessarily always be via the sales department in some fashion, but it is important to keep as good a balance as possible between the sales drive and the drive toward discovery of the simple facts. One of our difficulties is that the analytical point of view looks most successful when stocks act as forecasted by the analyst. Since there is a following for low-priced shares, a careless analysis of a low-priced issue can at times work

out satisfactorily, because a following can be created that makes the stock act along the line indicated by the analysis. By spreading the news widely enough, a big enough following may be created to bail the initial analyst and his followers out of the stock with a profit. Since nothing succeeds like success, the analyst who has successfully produced business and made money for his clients is bound to be emulated sooner or later and in various degrees by other analysts. It is not for nothing that the Lord's Prayer says "deliver me from temptation." It is hard to combat production analysis without giving more power and profit to pure analysis.

In my opinion, which I have expressed in previous articles, we all suffer a certain amount of corruption in our thinking because of the bull market complex. Many people do not buy stocks to own them; they buy them for appreciation. This is just as much true of the best analysts in our societies as it is of the most ignorant members of the public. I do it, and so does everyone else. We do it because practical experience has taught us that it is at times possible to profit by thinking in terms of capital appreciation rather than long-term ownership. Moreover in a huge economy it is a fact that there are always some undervalued or overvalued situations which a few astute people can discover. But there is something wrong and dangerous about this investment philosophy when it is held, as it is, on a national scale. It is not possible to build a big investment business on a sharp-shooting foundation of price appreciation. It is however, possible to put the investment business on a solid everyday foundation if we think in terms of ownership. This can only be done if the analytical point of view becomes dominant. If a careful study indicates that ownership of a security within some reasonable price range is desirable, then it will also indicate that ownership beyond that range may be undesirable. Since businesses are living organisms, there must be allowance for change, and there must be periodic reviews of opinion, but, as a whole, investment for ownership based on careful study should result in more moderate price changes. This should mean a steadier demand, because people could afford to put more money in the market if there was less fluctuation. (If Chaucer were writing this, he would leave out the l, and, fellow analysts, he would, with poetic compression, have the main point of what there is wrong about our business.) A continuation of the present superficial approach to the investment problem can only result in a continuation of the uneasy type of business we are familiar with.

But in order to have a deep understanding of investment situations it will be necessary to know more about each company than now is possible. We have to know more than we now are allowed to about profit margins, importance of various products to sales and earnings, intentions of the management, and the like. This can only be done if the investor gains more power. The companies must be recaptured by their owners in order for investors to be in a position to demand adequate knowledge as a matter of right rather than courtesy. Today the average stockholder is in the position of a child insofar as his investments are concerned). The parents often are a pleasant and well-meaning group of officers, but fundamentally the investor is treated as a child, told what the parents think he should hear, given what dividends seem wise, and so on. This is one of the reasons why stocks of good families sell at higher ratios to their annual earnings whereas stock of unstable families sell "cheap". Nothing would help the private enterprise system more than to give the risk takers more control over their capital. Many people avoid common stocks because they do not like their capital being driven by someone else.

Since the security analyst and the investor are fundamentally the same person, the analyst being merely an investor who devotes all his time to investments and who earns a major share of his living by advising others, a natural development of our profession would be to have the investor represented on the boards of companies, and achieve special powers that will allow him to grow out of his childish situation into one of adult directive ownership. Legal status for our profession is in my opinion one of the necessary steps toward this goal.

There is a public necessity for professional security analysis which endows our profession with possibilities of dynamic usefulness and growth. But to realize these possibilities will require a substantial effort applied over a period of years. We must prove the point to ourselves, to our employers, and to legislators. If we have the facts, then effort can eventually supply the proof. I may be wrong about the facts. This article is submitted for purposes of discussion, rather than instruction.

Announcement

to you, who operate motors or machines

and would like to save money . . .

THE ACCEPTED METHOD of making high quality lubricating oil has been to blend a heavy oil, too heavy to be a satisfactory lubricant, with another oil too light to give satisfactory performance. Although the best process known, up to now, the resulting mixture is a compromise—and as is usually the case with compromises it naturally suffers from the adverse effect of both of its component parts.

CITIES SERVICE SCIENTISTS have discovered a process which does away with the compromise and thus produces a lubricating oil superior to any on the market. This is done by taking a "heart-cut" of the lubricating oil fraction in a barrel of crude, retaining the advantages of the older methods while avoiding their disadvantages.

THE BRAND NEW SCIENTIFIC PROCESS by which this "heart-cut" is achieved is the unusual feature of our new $42,000,000 lube oil plant (at Lake Charles, Louisiana)—the newest and largest and most efficient plant of its kind in the world. This plant is now "on stream" and its products have exceeded the highest expectations of the scientists.

The new "heart-cut" oil is available at Cities Service stations—another step forward in providing the motorist and those who operate machinery of all kinds a lubricant better in action and resulting in lower operating costs.

AGAIN, in this progressive oil industry, one company through its incessant search for new and better ways of doing things, has discovered such a way and has been quick to provide the facilities to make this new product available to the public.

CITIES SERVICE

QUALITY PETROLEUM PRODUCTS

Titanium—a Metal with a Future

WARREN WELLS

UP TO A FEW YEARS AGO, titanium was known to industry as titanium dioxide, a white powder used as a pigment in paints, the production of which had mushroomed into a hundred million dollar industry within two short decades. Titanium, although abundant in nature, was considered a laboratory rarity because of the difficulties in separating the metal from its ores. This situation has now been changed at the expense of over $15 million which Government and private industry have poured into titanium metal research and development during the past three years. The stepchild of the laboratory has emerged as a new metal which, combining the best qualities of stainless steel and the best available aluminum alloys, promises to become the backbone of the light metals age and to revolutionize American industry just as aluminum and stainless steel once did. Thus, the security analyst is faced with the problem not only of assessing the growth potential and the competitive effects of the new industry, but also of analyzing the impact of a new and superior engineering material on the economy at large.

SAVINGS IN SPACE AND WEIGHT

The possibilities of titanium can best be envisaged by comparing it on a metal to metal basis with iron and aluminum, our two most important structural metals. In cold-worked form, titanium is 40% lighter than iron and more than twice as strong. Compared to aluminum, it offers a 500% increase in strength at the expense of a 60% increase in weight. This gives it an especially favorable strength-weight ratio—about 4½ times that of aluminum and 4½ times that of iron. For any given purpose titanium offers considerable savings in space and weight, compared to iron and aluminum. Titanium has many other advantages, including its corrosion resistance and its ability to withstand wear and tear, but its weight-saving potential is the major key to its industrial importance.

MAJOR FIELD FOR DEVELOPMENT

Titanium-base alloys, which are still in their initial developmental stage, represent a major field for metallurgical development. The strength of the metal has already been doubled by being alloyed with other metals, and metallurgists are confident that even stronger alloys can be developed. The new alloys are markedly superior in strength and strength-weight ratio to the present stainless steels and aluminum alloys. It is these titanium alloys rather than the pure metal that may be expected to compete commercially with other structural materials, particularly aluminum alloys and the alloy and stainless steels.

Far from being a rare element, titanium is superabundant in nature, ranking as the fourth most abundant structural metal after aluminum, iron, and magnesium. Most important of all from the strategic standpoint, there are enough workable deposits of ilmenite, the most abundant source, to make us independent of overseas supplies. The United States now has the largest single ilmenite-producing mine in the world, the property of the National Lead Company at Tahawus, N. Y. Kennecott Copper and New Jersey Zinc are speeding the development of the huge ilmenite deposit recently discovered in the Allard Lake area of Quebec. This, the world's largest deposit, is estimated to contain between 125 and 200 million tons of high-grade easily accessible ore. The average of Cliff orebody as indicated by the drilling done to date, is 35% titanium dioxide, compared to the average grade of 18 to 19% contained in the National Lead's famous MacIntyre orebody. The tremendous extent of this deposit insures an adequate supply potential for some time to come.

An interesting aspect of the mining picture is that ilmenite is a titanium-iron ore which was once considered unworkable because of the "contaminating" titanium. It was the research aimed at finding a practical method for eliminating this "impurity" from iron ore that led to the discovery of the possibilities of titanium dioxide as a pigment. Today the picture has been changed, and a number of important orebodies are being mined for the valuable impurity, and the ever growing demand for titanium is rapidly expanding our workable deposits of iron ore.

PRODUCTION IN PILOT PLANT STAGE

Production of titanium from its ores is still in the pilot plant stage with du Pont and National Lead ranking as the only major commercial producers. The du Pont Company, which is still the only commercial supplier, announced the production and sale of titanium metal in sponge and ingot forms in September 1948. This production had initially been confined to 100 pounds per day. However, the company has increased its plant facilities to meet the increasing demand for the metal and is planning further increases in production facilities. The company's experts believe that the present process can be operated on commercial size satisfactorily and economically and consider that "the prospects for a tonnage titanium industry are especially promising."

PRICE SUBJECT OF SPECULATION

The basic question of price has been surrounded by a good deal of optimistic speculation and wishful thinking. Most of the popularized articles on titanium have attempted to draw an analogy with aluminum, which took only a comparatively few years to drop from $5 to 32 cents a pound. This type of analogy ignores the technical difficulties involved in the production and processing of the metal. The Kroll process, which is used by most producers, is a chemical process using magnesium as a reducing agent which involves the inclusion of magnesium metal as a cost factor. The rate at which prices will drop from the current base of $5 a pound for the sponge and $7.50 a pound for the ingot form will depend primarily on increases in production. Prices will probably drop slowly to about $1.50 to

$2.50 a pound as production reaches an annual volume of about a thousand tons. Substantially lower prices should prevail when large scale production is eventually achieved, but experts expect titanium to be more expensive to produce than aluminum or magnesium. However, higher prices will be no bar to effective competition because it will take much less titanium to withstand a given structural strain. Titanium will compete on a use for use rather than a pound for pound basis and will possess special competitive advantages in the fields of transportation and power machinery, where weight savings can be translated into lower operating costs.

CHIEF APPLICATION IN AIRCRAFT

Titanium and its alloys will find their major field of application in the aircraft industry, which is now taking a significant proportion of the present production for experimental and pilot model uses. In view of the performance of the titanium-base alloys now available compared to the best commercial aluminum alloys, aeronautical engineers contemplate reduction in weight ranging up to 20%. This would more than double the present 12 to 15% payload of domestic freight or passenger planes. Thus, the current basic cost of about $60 for each pound of airliner load capacity places a considerable premium upon the metal's weight-saving potentialities.

Titanium-base alloys will be equally advantageous in the design of military aircraft. For example, fighter bombers cost from $15 per pound of airframe weight on a quantity production basis up to about $40 per pound for smaller procurements. An increase of about $3 per pound to allow for the use of titanium alloys would result in a maximum cost increase of 20%. The increased cost would be more than compensated for by the doubling of the planes' pay load in bombs and fuel.

Another important use for titanium is in the design of jet planes and guided missiles. The inability of aluminum and magnesium alloys to withstand the high temperatures generated in supersonic flight has been a major obstacle to military designers. According to Dr. Karl T. Compton, former chairman of the Office of Scientific Research and Development, "It is considered doubtful that aluminum alloys can be developed to be universally trustworthy under all conditions at speeds very much in excess of sound". The Air Force recently revealed that it was counting on titanium to break this materials roadblock. During testimony for the 1950 budget, Brigadier General Donald Putt, in charge of research and development on the air staff, stated: "Our materials problem is the major limiting factor in our present performance of jet aircraft and engines . . . titanium is coming into the picture very definitely. It has particular attractiveness because it is not a strategic material."

TITANIUM IN NAVAL DESIGN

Other branches of the Armed Forces are equally interested. Last year the Office of Naval Research conducted a titanium symposium to explore the possibilities of the metal for use in naval design. The ground forces are considering the use of titanium alloys in the construction of artillery, tanks, and lightweight body armor. Extensive tests have shown that titanium plate is as good as if not better than the best steel-alloy armor plate. The metal is also expected to find extensive employment in the design of airborne material where weight is at a premium. These many military uses in which special qualities are paramount and costs secondary will probably accelerate the development and application of titanium.

Titanium will also pay its own way in many other industrial applications outside the aircraft industry. Resistance to salt water corrosion which is equaled only by platinum ($72 an ounce) and Hastelloy C ($3.80 per pound) will find many applications in chemical plants and in shipbuilding, particularly for such specialized parts as propellers, pump rods, shaftings, and condenser tubes. Titanium will also prove economic in the manufacture of high-speed rotating and reciprocating machinery where the savings in power will more than compensate for the increased cost. In this connection it is worth noting that titanium is the only light metal that can be used extensively in this field. Neither magnesium nor aluminum can stand the wear and tear incident to high-speed machinery, and both these metals would necessitate massive and bulkier designs. Titanium, on the other hand, is capable of withstanding the wear and tear involved and makes it possible to reduce both the weight and mass of machines. Many other early uses are also expected in the manufacture of springs, surgical instruments, jewelry, and tableware. However, these represent only the more specialized applications which would be warranted by initial high production costs. Actually, the range of commercial applications is almost limitless. Because of its corrosion resistance and weight-savings ability, titanium could be used on a tremendous scale in the automotive, construction, shipbuilding and transportation industries. Price and price alone will be the only limitation to its employment, and industrial utilization will snowball as production prices are brought down.

COMPETITION WILL BE INTENSIFIED

Titanium pigments have already become an important factor in our economy—the introduction of the metal and its alloys will have even greater and more far-reaching effects. Competition in the metals field will be intensified as titanium and its alloys compete on an ever increasing scale with stainless and alloy steels and with aluminum and magnesium alloys. Producers and fabricators of competitive alloys may find it necessary to follow the example of the Allegheny Ludlum Steel Company, which is adapting its steel-making know-how to the fabrication of titanium. Increased load efficiency of commercial aircraft will make for lower rates and accelerate the expansion of the air transport industry with corresponding benefits to aircraft manufacturers. Manufacturers of machinery will also benefit from the introduction of radically improved high-speed machinery, which will speed up the technological obsolescence of equipment now in use. The superior strength, weight, and corrosion characteristics of titanium and its alloys will also open up new horizons of industrial design and performance for chemical, petroleum, textile, railroad, and naval equipment. Under a free enterprise system the benefits of these developments will be reflected in new jobs, increased production, lower operating costs, and a higher standard of living for the free nations of the world.

Television—the Miracle Industry

OWEN ELY

TELEVISION HAS BECOME the most spectacular "infant industry" in our industrial history. It was grafted onto the radio manufacturing and broadcasting industries which provided a good backlog of cash, know-how, and merchandising enthusiasm. Eighteen years ago the first television program was telecast from station W9XAP of Chicago, with only 48 sets available to receive the music and sports program. Before the war only 5,000 television receivers had been produced commercially, and in the year 1946 output was only 6,400. Production really began in 1947 with the development of mass production techniques, and 178,000 sets were sold in that year. In 1948 output jumped to 975,000 and in 1949 skyrocketed to an estimated 2,750,000, which exceeded all expectations, early estimates having been only 1½ to 2 million. Current forecasts for 1950 range upward from RCA's conservative 3.5 million to Andrea's 5 million.

MARKET ONLY 5% SATURATED

Although gross sales last year, estimated at around three quarters of a billion dollars, probably exceeded the dollar volume for radios, the market is said to be still only about 5% "saturated." With total cumulative production to date estimated at around 4 million sets, this saturation estimate seems to forecast an eventual 80 million sets for 100% saturation. This seems an ambitious goal, although some families have already acquired two or more sets.

The industry has proven profitable for leading producers of sets, but almost without exception station owners and broadcasters until recently operated heavily in the red, spending money made on radio advertising to develop the new industry. However, this situation is rapidly clearing up. *Television Digest* thinks that most of the telecasters will be out of the red some time in 1950 because of higher rates, more sponsors for programs, better know-how, and the advantages gained during the FCC "freeze" on stations. The service estimates that one third of the 98 stations operating at the year end will be definitely in the black in 1950, that another one third will fall short of covering depreciation charges, and that the remaining one third may continue in the red but in smaller amounts. Only one station — Pittsburgh's WDTV, operated by DuMont — is said to be a big earner currently, with profits estimated around $8,000 a week.

INDUSTRY FACES BROADCASTING CHANGES

The Federal Communications Commission, which acts as czar of the air waves, has been sharply criticized for some of its earlier wave allocations; the industry now faces basic changes in the scope and technique of broadcasting, and the FCC is feeling its way—too carefully to suit part of the industry. During the summer the FCC froze all applications for licenses until it had explored the potentialities and problems of UHF (*ultra*high frequency range) as distinct from the present VHF (*very* high frequency range). Once the technical problems are solved, some 42(?) new channels will be assigned for the use of stations that cannot now obtain space on the present 12 channels. It is predicted that in two years there may be 300 stations in operation, more than triple the present number. However, decisions regarding ending of the "freeze" and opening of the new UHF channels may await determination of policy on color TV (discussed later).

40% COVERAGE OF POPULATION

The 98 stations now operating are located in 56 cities in 31 states and the District of Columbia, with an estimated coverage of over 40% of the Nation's population. They are largely affiliated with five networks, four of which are well established in radio—NBS, CBS, ABS, Mutual, and DuMont. The networks take care of the heavy cost of engaging Hollywood stars and other talent, as well as the sales efforts necessary to attract the big national advertisers. Gearing of advertising sales to costs is necessary to put telecasting on a profitable basis, no longer to be subsidized by radio, which it is rapidly outgrowing. The networks are also building up elaborate plants similar to Hollywood's: the CBS plant includes more than an acre of floor space devoted solely to producing TV scenery; it has eight designers, 20 scenic artists, 100,000 feet of flat scenery, 500 set pieces—and can turn out scenery for the most elaborate TV production in 36 hours after blueprints are finished. The operating staff in New York now exceeds 300.

STATISTICS ON NETWORK SIZE MISLEADING

Statistics on the size of the networks are somewhat misleading, for some "independent" telecasters patronize several networks so that figures are overlapping. Thus Columbia claims 56 stations (compared with a single unit in early 1948) and NBC at the end of 1949 had 55 (against 24 a year earlier). Obviously, after adding in the three other networks the total would far exceed the industry aggregate of 98 stations.

These TV network systems were made possible largely by the use of the underground coaxial cable, developed by the Bell System. A cable contains eight or more tubes (each about the diameter of a pencil, with a copper wire down the center) and is the equivalent of a very large number of telegraph or telephone wires. Each cable can theoretically transmit several TV programs despite the broad frequency band and the huge number of electric impulses involved.

After extended experimental operation of television channels between Washington and New York, and later Boston, commercial charges were inaugurated by the Bell System on May 1, 1948. During the summer of 1948, additional facilities were provided on the East Coast network, which was extended to Richmond. In September a second network was opened in the Midwest, interconnecting Buf-

falo, Cleveland, Toledo, Detroit, Chicago, Milwaukee, and St. Louis, and in January 1949 the two networks were interconnected. In the latter half of the year A.T. & T.'s long lines department completed a set of 31 radio relay microwave (overhead) stations between New York and Chicago at a cost of $12 million, which will take over the TV broadcasts and release the coaxial cable for phone uses. Eventually the TV system, including both underground cables and overhead radio relays, will be Nation-wide.

The Bell System and Western Union have been developing different methods of microwave (overhead) transmission, but Western Union has been handicapped by irregular earnings and litigation. The overhead system involves the construction of relay stations on hilltops or high ground at intervals of about 25 miles (depending on the contour of the area), to reflect the waves from one point to another. The stations range in height from 60 to 200 feet. Each station receives the beamed transmission from its neighbor on one side, strengthens the signals, and passes them along to the other neighbor—like a bucket brigade system.

COLOR TELEVISION AND UHF

The problem of color television has now come to the fore and is currently being considered by the FCC along with the problem of UHF broadcasting (next FCC hearings on color are set for February 20). Three companies are competing, through experiment and field tests, for the privilege of establishing the initial system for all color broadcasting—RCA, Columbia, and Color Television Inc. of San Francisco. The two basic systems are the mechanical sequential color wheel and the synchronized electronic system. Each system seems satisfactory under studio conditions but for long-range broadcasting will require considerable development, the same as was necessary with black and white broadcasting some years ago before the present 525-line system was adopted. The CBS unit is said to have an excellent color definition but requires the addition of an adapter on all existing receivers, even for a black and white picture; on the other hand, the RCA system, although simpler, is said to be deficient in color definition. Eventually a single-tube all-electronic system may be developed. It may well take several years to get color TV perfected and widely used.

COLOR TESTS BEING MADE

Makers of sets have been asked to complete experimental apparatus for converting black and white sets to colored use, and also to start building sets capable of receiving television in the proposed 42 new UHF channels to be allocated some time in 1950. The FCC has asked each of the companies experimenting with color to place a number of sample sets in the hands of the public and to try out their color systems extensively, and this is now being done. The Commission has made it a requirement that existing receivers must be able to receive colored programs by using adapters, or making other inexpensive modifications, so that existing sets will not be made obsolete.

TRIAL AND ERROR IN MANUFACTURING

In the TV manufacturing end there has been the usual process of trial and error and elimination of some unsuccessful companies. Before the war only a few companies produced TV receivers commercially; yet by 1946 the number had increased to 40 and in 1948 to 76; all but 18 were also producers of radio sets. Currently there are about 100 producers, but many of these are "hangers-on" and the five largest companies control 75% of the business. In the 1948–49 scramble for the lead in production of sets the established radio leaders such as RCA, Philco, Zenith, Crosley (now controlled by Avco), and Motorola have been active, but Admiral (put together out of corporate odds and ends in the early '40's) has forged ahead most rapidly (see *Fortune* for June, "In Television Admiral's Hot").

An outstanding name in television, Farnsworth, fell by the wayside and was absorbed (along with Capehart) by International Tel. & Tel., which got into the U. S. electronics game during the war. But another pioneer inventor, Dr. DuMont, has made good. His company started in business twenty years ago with $1,000 capital, and marketed the first commercial receivers ten years ago; it now claims to operate the largest assembly plant, with four other factories making tubes and parts. The company did not make any substantial earnings until 1948, but Dr. DuMont estimates 1949 sales at $45 million and profits at $3 million; sales in 1950 may zoom to $80 million.

BROADCASTING COMPANIES HAVE HEAVY LOSSES

In the broadcasting end, most companies in the past operated at heavy losses because of the high cost of program talent and the difficulty in obtaining adequate sponsorship for advertising programs. RCA was in the best condition to absorb this red ink because of its broad base of income from radios, patent licenses, and the like. In 1948 the company lost $3 million in television, it is estimated; although the rate of loss is narrowing currently, it may be some time before the break-even point is reached. Columbia Broadcasting, which made strenuous efforts in 1949 to wrest leadership from Radio's NBC, has probably been losing cash at the rate of $1 or $2 million a year, but its profits on radiobroadcasting have permitted it to absorb the loss. American Broadcasting Company is financially the weakest of the three companies, and it has been conjectured that control of the company might be acquired by one of the motion picture companies (former negotiations with Twentieth Century Fox were dropped). WPIX of the *Daily News* (well able to stand its loss) was said to be in the red $1 million in 1948—probably a record for an individual station. Of 76 TV stations, only 6 claimed to be breaking even or making money last August; and many smaller companies, without a backlog of cash or outside earnings, have found the going rough. But this picture is now rapidly brightening, and everybody seems optimistic over eventual profits. A twenty-story television center at Broadway and 51st Street (New York) is planned for completion in 1951—the first big building devoted entirely to video.

TELEVISION IN THEATRES

Thus far theaters and movie houses have been rather slow to take up television. The FCC sent a letter to several interested organizations last summer inviting suggestions as to minimum frequencies, specific frequency bans, and other information for use in issuing authorizations. Two methods

of televising programs inside picture theaters are in use: (1) projection direct to the screen, and (2) photographing TV transmission on 35-mm film which is then projected like any motion picture.

LEGAL RIGHTS OF PRINCIPALS

Some interesting problems have risen as to the respective legal rights of the principals involved in originating televised material versus the broadcasters. Test cases were brought last June to prevent unauthorized telecasts of the Louis-Walcott fight. In the use of copyrighted music sent over the radio, the Supreme Court has ruled in favor of the copyright owner. Although sport events cannot be copyrighted immediately, it is claimed that there is a "common law copyright", that is, a property right in the blow-by-blow radio description that accompanies the TV fight pictures. But with sport events such as big football games, the "public interest" may be so great as to place reporting in the same category as general news, and the copyright idea is out.

ALL MAJOR CONCERNS ADVERTISERS

Television advertisers now include all the major concerns with multimillion sales, and Ford has now deserted radio for television. The Department of Commerce's recent 30-page booklet "Television as an Advertising Medium" is an interesting survey of the industry. The report is accompanied by a large-scale map of the United States showing television centers, local TV stations (reception areas about 20 miles), metropolitan stations (40-mile reception), TV network routes now operating, and those under construction or proposed. It contains much excellent historical and descriptive data on TV. Its summary of future possibilities is highly optimistic:

> Television can employ the visual impact of newspapers and magazines, the oral persuasion and personal immediacy of radio, and, in addition, by combining sight and sound with motion make demonstration possible. Thus television is lifted out of the confines of an advertising medium and extended into the realm of a sales medium. All surveys indicate that television, in terms of (*a*) audience identification of sponsor, (*b*) remembrance of and understanding of the sales point of the commercial, and (*c*) sales results produced, has greater sales-producing impact per person reached than any other advertising medium. Television has been able to demonstrate these advantages notwithstanding the fact that advertisers and agencies have not yet made full use of its potentialities. . . . For the long run, television will stimulate larger advertising budgets in which newspapers, magazines, and outdoor media will benefit and in which radio, as it becomes a more specialized medium, will participate in proportion to its more restricted use. . . .
>
> It is anticipated that television time and expenditures, particularly dollar volume, will continue its remarkable growth during 1950. Federal Communications Commission Chairman Wayne Coy foresees about 1,000 television stations in operation within 7 years and estimates 18 million television sets in use by 1953. . . . Many advertisers have reported that, on a cost-per-sale basis, today's television compares favorably with costs of other media, while other advertisers state that for per dollar spent, there is no present consumer medium that can deliver the same degree of retail promotional cooperation as television. More and more national, regional, and local advertisers are including television in their media plans.

What about the stock market impact of TV? There was a "bull market" around 1937 in Baird Television of London, Farnesworth, DuMont, and Electrical & Musical Industries, but this quickly faded out. Wartime developments in electronics were a great aid to radio and television, but postwar interest in television shares was not outstanding in the 1946–46 bull market — perhaps the memory of radio's 1929–30 market antics still lingered. Real interest in video as distinct from radio began to develop in 1948.

In August of that year Television Fund, Inc., was set up by Television Shares Management Company of Chicago. An early quotation on the stock was $8.96–$9.77, and a recent quotation was $10.41 to $11.35. The company is not strictly an investment in television stocks, however, but includes holdings of varying amounts in some 45 companies, including makers of parts and affiliated industries. As of October 31, 1949, for example, the investment in Minneapolis-Honeywell was $145,000 or 6% of the total fund, although that company would seem to have relatively little interest in television. There were also investments in Capital Records, Walt Disney, Fansteel Metallurgical, International Business Machines, and other companies which appear to have only an indirect interest in television. On the other hand the investment in Admiral was only about 4% of the Fund, Radio Corporation 5%, Philco 3%, and so on. The Fund recently had a total investment of about $3 million.

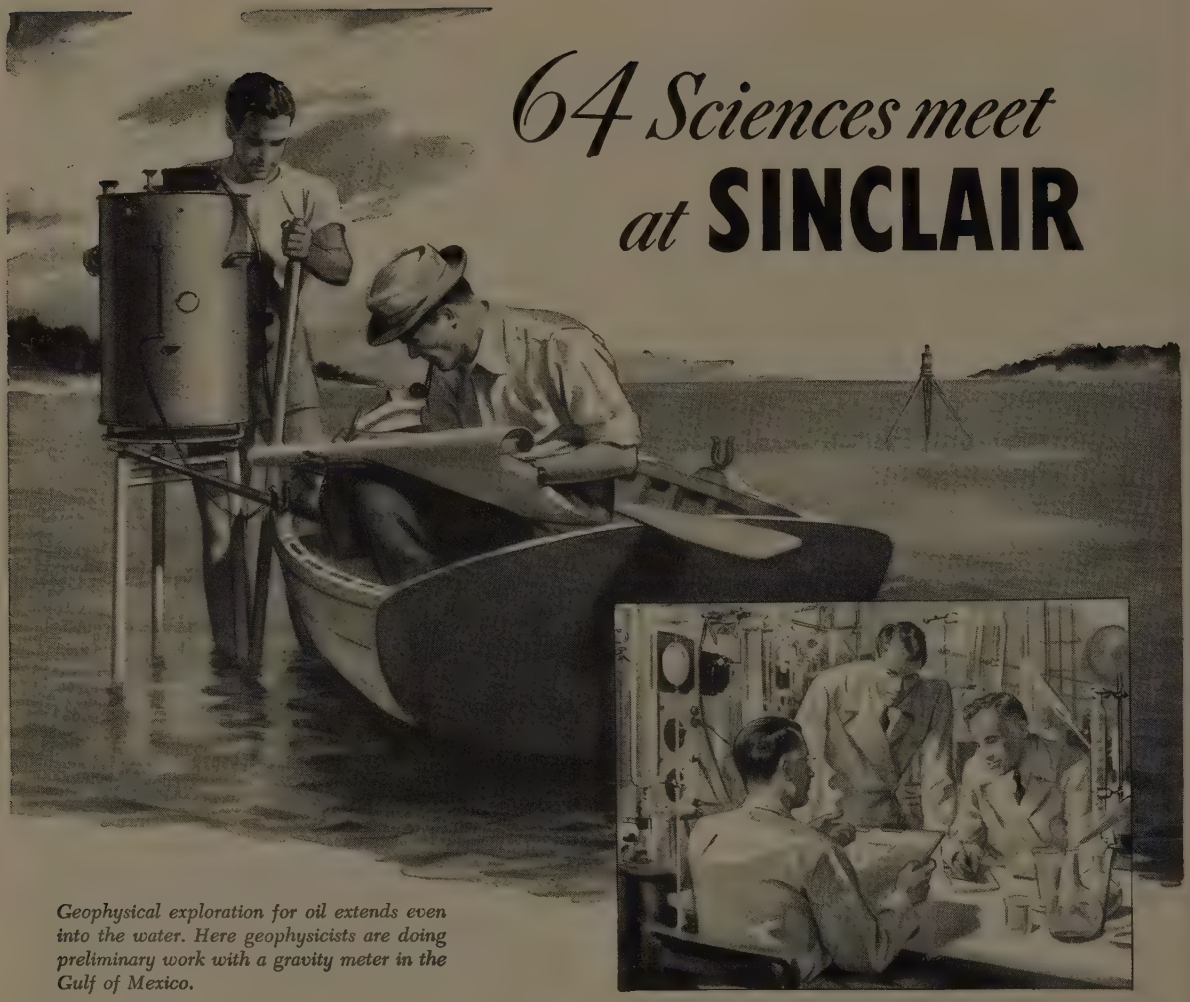
BARRON'S GROUP INDEX

Barron's set up a group index of television stocks late in July 1948. The index includes 14 stocks as follows: Admiral, American Broadcasting, Avco, Columbia Broadcasting A, Cornell Dubilier, Emerson Radio, General Instrument, Magnavox, Motorola, Philco, RCA, Raytheon, Sylvania, and Zenith. The initial price of the group average was $16.76; the range for 1948 was $14.86 to $18.12, and in 1949 it approximated $12.24 to $18.27, the December 29 average being $17.97. Obviously the group has not done much better than the Dow-Jones Industrial Average. It had a sharp seasonal advance around Christmas time in 1948 and a somewhat similar move in 1949, with profit taking after the holiday. With the papers full of Christmas television ads, the seasonal enthusiasm is readily explained. Last summer's low was made during a period of sharp price cutting, when there was considerable confusion over FCC policies and a temporary overproduction of sets and FRP credit restrictions had not yet expired.

NO SET RULES FOR APPRAISALS

As with any rapidly growing industry, there would seem to be no tried and true rules to guide the security analyst in his appraisal of TV stocks. Past experience and inventive genius are not always the key to success, as was proven with Farnesworth. Aggressive merchandising, advertising, and salesmanship, plus cash to gamble on the public's latest fancy; ingenuity in assembling and packaging the merchandise—in other words management, cash, and guts—appear to be the success formula. Research facilities are important but should not be overrated. At this stage of the industry's growth, the analyst must study management first and statistics second.

64 Sciences meet at SINCLAIR



Geophysical exploration for oil extends even into the water. Here geophysicists are doing preliminary work with a gravity meter in the Gulf of Mexico.

No one man—no one science—can answer the questions Sinclair asks of its research and technical staff. It takes the cooperative effort of hundreds of men applying their knowledge of 64 specific sciences.

There are *two* ever-present questions: Where is oil to be found? How can Sinclair improve the products of oil?

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Actually, there are 19 *different* kinds of scientific degrees held by the research and technical men of Sinclair—ranging all the way from metallurgy to entomology.

This combination of sciences—all concentrated on the problems of petroleum—has helped make Sinclair *"A Great Name in Oil."*

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Bank Portfolio Management — Some Applied History and Philosophy

ROBERT W. STORER

INTRODUCTION

AS A BASIS FOR THE DISCUSSION to follow, I suggest that most commercial banks have much the same basic objectives:

1. To meet the reasonable and legitimate needs of their community for credit and to estimate the magnitude of those needs.

2. To be able to pay out deposits as they are demanded and to estimate the probable extent of such withdrawals.

3. While taking care of the foregoing primary responsibilities, to earn as much for their stockholders as possible, not with perfect safety, which I regard as impossible, but with a reasonable minimum of risk. I submit that this third objective should be subordinated to the first two, but that it should not be wholly submerged by them.

It appears to me that a useful and rational approach to a solution of the problems presented by the foregoing is to treat any given bank and its investment portfolio as consisting not of one, but of three banks—a bank of demand deposits, a savings bank, and a bank—almost an investment trust—of capital funds. Such a treatment appears to be justified by the varying characteristics and turnover of each of the three classes of liabilities, the offsetting assets against which are being lent or invested. I develop this thought further in this article.

WHAT IS LIQUIDITY FOR?

A commercial bank owns short, low-yielding investments not because they return a good income, but in order to be able to sell them quickly and without much loss, should loan demands or deposit withdrawals rise. It might be noted here that these two contingencies seldom occur simultaneously on any major scale. To the extent that a bank can be estimated not to need liquidity, it can hold longer and higher-yielding investments and thus better fulfill its responsibility towards its stockholders.

Of the two principal developments requiring a bank to sell bonds, and thus to be "invested short," I will discuss first the potential loan demand, in terms of historical data and of the present situation. The key ratio on this point is the ratio of loans to total deposits—the *L/D* ratio. The reader is invited to refer to the table of basic data accompanying this article, in order to observe the highly significant long-term trends.

This table shows what has happened to the *L/D* ratio and to its components, since the start of the National Banking System in 1863. I chose this series because I could get it as far back as that date. It is not now, of course, inclusive of the entire bank system, but it is representative of it. We see that there has been a long-term downtrend since 1874 in the *L/D* ratio. Whenever the figure has stabilized at a given level for a few years, it has never thereafter risen much, nor for long. This has obviously been by reason of the rapid rise in investments over that period. Deposits are created, for the commercial banking system as a whole, to the extent that the commercial banks, on balance, make loans or purchase investments. By the same token, deposits shrink only to the extent that loans are paid or investments are either sold or paid. On an average, then, when a bank lends funds, sooner or later, its deposits are likely to rise, even though the immediate borrower should leave no balance of the loan proceeds in the bank.

DECLINE IN *L/D* RATIO

It may be seen from the table that the decline in the *L/D* ratio to unprecedented low levels in 1943–44–45 arose out of the creation of deposits through bank buying of war-deficit Treasury paper. The ratio subsequently rose because the Treasury raised from nonbank sources more funds than it needed and then retired bank-held debt with this excess, plus its operating surplus. With deficit financing again in the offing, it would seem virtually impossible for bank investments in the aggregate to shrink further; they are more likely to increase.

It would also appear quite out of the question for the *L/D* ratio to reverse its long-term downtrend and to revert to the levels characteristic of the years before the World War II deficit financing.

It appears to me quite relevant to a commercial bank's investment procedure to devote some analysis to its own record in this respect and to determine, in the light of local conditions, what percentage of its total deposits may reasonably be expected to be lent in the next few years. An individual bank's record of its *L/D* ratio may be expected to vary somewhat from that of the National Banking System or the Federal Reserve System, as a whole. However, the same influences that have shaped the course of the industry have had some powerful effects on the course of virtually all commercial banks, and thus we may be justified in generalizing from the national experience. I expect that most banks would reflect much the same long-term decline in the percentage of deposits lent.

PERTINENT CONSIDERATIONS

In making an estimate of what percentage of its total deposits a bank might conceivably lend, I believe that the following considerations are quite pertinent:

1. We are at the end of a period of great and rapid credit inflation, in which the investments of the National Banks have risen, net, from about $16 billions to $40 billions in seven years. This inflation is frozen into the monetary structure, since most of these investments are obligations of the Government—the one debtor that cannot be liquidated. Indeed, with further deficit financing in prospect, bank investments are much more likely to rise than to

ALL NATIONAL BANKS*
Millions of Dollars

Date	Total Loans	Total Deposits	Total Investments	Ratio Loans to Deposits, %
10/ 5/63	5	9	6	55
7/ 4/64	71	147	93	48
7/ 3/65	362	614	394	59
7/ 2/66	550	695	468	79
7/ 1/67	588	685	522	86
7/ 6/68	656	745	507	88
6/12/69	686	716	466	96
6/ 9/70	719	706	453	102
6/10/71	789	791	456	100
6/10/72	872	805	450	108
6/13/73	926	836	445	111
6/26/74	926	828	451	112
6/30/75	973	897	443	108
6/30/76	934	842	427	111
6/30/77	902	818	431	110
6/ 2/78	835	814	460	103
6/14/79	836	1,090	715	77†
6/11/80	995	1,085	451	92
6/30/81	1,145	1,364	484	84
7/ 1/82	1,209	1,365	471	89
6/22/83	1,286	1,337	465	96
6/20/84	1,270	1,233	449	103
7/ 1/85	1,258	1,420	432	89
6/ 3/86	1,399	1,459	407	96
8/ 1/87	1,560	1,650	359	95
6/30/88	1,628	1,716	356	95
7/12/89	1,779	1,920	323	93
7/18/90	1,934	1,979	311	98
7/ 9/91	1,964	1,974	309	99
7/12/92	2,128	2,327	347	91
7/12/93	2,020	1,939	357	104
7/18/94	1,944	2,228	435	87
7/11/95	2,017	2,279	447	88
7/14/96	1,972	2,141	464	92
7/23/97	1,978	2,386	484	83
7/14/98	2,164	2,799	555	77
6/30/99	2,508	3,539	652	71
6/29/00	2,644	3,622	775	73
7/15/01	2,981	4,250	886	70
7/16/02	3,247	4,468	945	73
6/ 9/03	3,442	4,562	1,025	75
6/ 9/04	3,622	4,836	1,096	75
5/29/05	3,930	5,407	1,205	73
6/18/06	4,237	5,703	1,241	74
5/20/07	4,664	6,190	1,362	75
7/15/08	4,640	6,331	1,520	73
6/23/09	5,061	7,009	1,613	72
6/30/10	5,456	7,257	1,576	75
6/ 7/11	5,634	7,676	1,726	73
6/14/12	5,974	8,064	1,823	74
6/ 4/13	6,162	8,144	1,846	76
6/30/14	6,443	8,560	1,870	75
6/23/15	6,663	8,817	2,025	76
6/30/16	7,767	10,872	2,319	71
6/20/17	8,936	12,768	2,961	70
6/29/18	10,078	14,042	3,836	72
6/30/19	10,904	15,935	4,809	68
6/30/20	13,499	17,159	4,048	79
6/30/21	11,976	15,142	3,919	79
6/30/22	11,191	16,323	4,514	69
6/30/23	11,778	16,899	5,027	70
12/31/23	11,808	17,826	4,999	66
6/30/24	11,955	18,349	5,103	65
12/31/24	12,214	19,996	5,626	61
6/30/25	12,592	19,912	5,700	63
12/31/25	13,419	21,077	5,734	64
6/30/26	13,322	20,644	5,837	64
12/31/26	13,482	20,859	5,785	65
6/30/27	13,849	21,778	6,382	64
12/31/27	14,641	22,856	6,894	64
6/30/28	14,921	22,645	7,141	66
12/31/28	15,285	24,335	7,122	63
6/30/29	14,205	21,586	6,651	66
12/31/29	15,136	22,738	6,448	67
6/30/30	14,874	23,235	6,875	64
12/31/30	14,347	22,836	7,079	63
6/30/31	13,162	22,164	7,662	59
12/31/31	11,905	19,210	7,189	62
6/30/32	10,265	17,428	7,183	59
12/31/32	9,828	18,486	7,571	53
6/30/33	8,102	16,741	7,358	48
12/31/33	8,086	17,555	7,855	46
6/30/34	7,681	19,896	9,331	39
12/31/34	7,475	21,637	10,435	35
6/30/35	7,353	22,477	10,698	33
12/31/35	7,494	24,802	11,457	30
6/30/36	7,748	26,153	12,459	30
12/31/36	8,257	27,556	12,756	30
6/30/37	8,796	26,716	12,097	33
12/31/37	8,796	26,487	11,738	33
6/30/38	8,316	26,763	11,618	31
12/31/38	8,469	27,996	12,434	30
6/30/39	8,553	29,416	12,528	29
12/31/39	9,022	31,559	12,789	29
6/29/40	9,156	33,014	12,882	28
12/31/40	10,004	35,787	13,644	28
6/30/41	10,897	37,273	14,922	29
12/31/41	11,725	39,458	15,845	30
12/31/42	10,901	40,659	18,643	27
12/31/43	9,190	54,769	33,729	17
12/31/44	11,230	65,833	42,289	17
12/31/45	12,389	76,826	51,020	16
12/31/46	17,310	79,050	46,643	22
12/31/47	21,480	82,275	44,010	26
12/31/48	23,819	81,648	40,228	29

*National Bank Act became law in 1863.
†Gold payments resumed in 1879.

decline, since any significant reduction can come only from Treasury cash surpluses, which seem unlikely on any substantial scale.

2. The deposits created by bank purchasing of these investments will thus remain in existence. To the extent that a given bank has enough excess reserve balances to buy more investments, it will normally do so, and its deposits will, by and large, rise correspondingly.

3. Under the present managed currency system, which was unthinkable before 1933, the Government—including, of course, the Federal Reserve System—will take steps to restrict major cycles in credit. The record is very consistent in this regard. Moreover, the authorities have made this credit regulation a relatively painless process. The sharpest decline in investments on record—from $51 billions at the end of 1945 to $40 billions at the 1948 year end (all National Banks) was accomplished through paying off maturing paper, not by forcing in any way, the liquidation of longer bank-held obligations.

4. If, in the National Banks as a whole, loans and deposits rose by equal dollar amounts, from the 12/31/48 levels, to a point where the *L/D* ratio was 40%, how much credit expansion would that involved? It figures out to about $15 billions, equivalent to a 62% increase in bank loans. Can one imagine the monetary authorities permitting a loan expansion of that magnitude? I cannot.

My personal conclusion is that, things being as they are, the banking system will be most unlikely to lend more than about 35% of its total deposits, over the foreseeable future. Any individual bank or banker will set his own figure at a level depending on (1) the extent to which he disagrees with my reasoning and conclusions, and (2) what has been the usual differential in the past between his *L/D* ratio and that for the National Banks as a whole, or the Federal Reserve System as a whole. I suspect that many a banker would be surprised at the amount of "shorts" he is keeping for potential loan demand that need not be held for that purpose.

LIQUIDITY TO PAY OUT DEPOSITS?

The other occasion for liquidity—cash and shorts—is to meet deposit withdrawals. One might take another look now at the basic data table—this time at deposits and investments. The only occasion when there was a really drastic decline in deposits was in the period June 30, 1930, to June 30, 1933—about 28% decline, in a depression deflation, a recurrence of which the Government will move heaven and earth to prevent. But now look at the course of investments over that time of travail. They *increased* from $6,875 million to $7,358 million. If we look over the comparative record of deposits and investments, there appear very few occasions when deposits declined enough to require the liquidation of investments. Most of the deposit declines preponderantly involved, rather, the liquidation of loans. Individual banks, of course, had experiences departing widely from the average or norm, and any specific banker would find it necessary to consider his own particular record and situation, in relationship to that average. The historical record does, however, afford us all a perspective which can be most informative.

The considerations, cited previously, concerning the objectives of the Government in stabilizing the credit and the business cycle, also have a bearing on the potential need to liquidate investments to pay out deposits. For the banking system as a whole, the volume of deposits previously created by bank purchases of Treasury paper seems most likely to be with us for an indefinite time. The question for the individual banker, is whether he can competitively hold his present share of this stable total of deposits, and that is a question that each of us can answer only tentatively and only for our own particular institution. Again, I suspect that many banks have shorts in excess of the amounts required to meet probable loan demand for deposit withdrawal.

INVESTING FOR THREE BANKS IN ONE

I revert to my possibly provocative statement at the outset, that a banker must invest his demand deposits, his time and savings deposits, and his capital funds, which can to advantage be treated separately. We have already discussed the question of investing demand deposits. Most of our shorts and also short loans will be allocated against demand deposits, for obvious reasons.

But what about time and savings deposits? Here again, what one does depends on his own intimate knowledge of his bank, its deposits, its community, and all the other local influences which he knows better than anyone else. If his time deposits are stable, they should be invested accordingly. If his savings accounts are true thrift accounts, they will almost certainly be more stable than his demand deposits, over short periods of, say a year. Hence they can be invested accordingly. But how long is "accordingly"?

RECORD SINCE 1892 REVEALING

I have checked the record since 1892 of commercial bank deposits, commercial bank time (and savings) deposits, and mutual savings bank deposits. It is very revealing and suggestive. In the 56-year period to the end of 1948, there were eight years when commercial bank time deposits declined from one year end to the next. Five of those were 1929–33, as would be expected, when the decline aggregated 45%. Mutual savings bank deposits, on the other hand, not only did not drop, but rose slightly in that depression era. In all other years, the stability of commercial bank time (including savings) deposits was about equal to that of the mutual savings banks.

Therefore, if a bank's time deposits are largely true thrift accounts, I suggest that one consider investing them somewhat along the lines of a mutual savings bank—the stabilization policies of the Government, and particularly the stability of the total volume of "Sanforized" nonshrinking Government debt and hence of the deposits created by it and supported by it. In considering the improbability of a recurrence of the 1929–33 pattern I cannot overlook the difference in the loan picture, either. Readers will remember the volume of credit resting on the stock market. At the 1929 year end, commercial bank loans on securities were in excess of $10 billion; at the end of 1948 they were about $200 million, much of which was on U. S. Government paper.

As for investing capital funds, I suggest that the average life of the investments should be longer than that for

savings deposits investments and the rate higher. Capital funds are of course the most stable element in the bank.

WHAT KIND OF INVESTMENTS?

Largely Treasuries, I believe. For bank investments I consider the liquidity of Treasury paper (especially under conditions when a bank may need to utilize its liquidity) to be so outstandingly superior to that of non-Government obligations, as to counsel the use predominantly of Treasury securities in a commercial bank portfolio. And by liquidity I mean ready saleability at a minimum of loss. I would rather have to sell any given amount of 2½'s of 1967–72 than almost any corporate security, even of shorter term, when others are also selling.

THE ACID TEST

If the reader has thought well enough of the foregoing observations to go through the hard work required to analyze his bank's position from the various angles involved —some of them possible novel in their application to his portfolio—he will evolve three "strips" of various maturity investments, as possibilities for his three "banks," and of an average life rather longer than past practices would indicate. The final test that I think should be applied is to set over the potential market depreciation against the capital cushion, by which I mean the undivided profits, voluntary reserves applicable to investments, plus the excess of market over book values. The potential market depreciation can be whatever one assumes is the worst that could happen. I would write down all Treasury paper to par or a point or two below, and, as a very rough guide, all other securities down five to ten points below their present markets depending on maturity—especially if they are "credit" rather than "money" bonds. If the capital cushion (as defined previously) is double that potential market depreciation, I would not be inclined to regard the average life of the investments as excessive.

To the extent that a bank concludes that its average life of investments can safely be lengthened, it will increase its income. Such increase, if added to reserves will serve a dual purpose. It will accord with the often expressed wish of the banking authorities for larger banking capital funds. And this very strengthening enlarges the amount of potential market depreciation, which can be "underwritten" and renders the lengthened average life of investments still safer and the bank as a whole more profitable.

END—WITHOUT CONCLUSIONS

The ironic—and humbling—anticlimax to all the foregoing is this: One bank, or a hundred banks, could legitimately fatten their earnings by following the procedure sketched herein. But, if a majority of commercial banks did so, the process would be self-defeating, by driving the yields on Treasury shorts up and on longs down, to a point where there would be left little or no spread. There appears little danger of this occurring.

In presenting this, I hope that I have not sounded dogmatic. I have wanted to sound heretic enough to evoke some light as well as heat, but still to remain on solid ground factually and logically. Other and perhaps contradictory inferences can doubtless be drawn from the basic data. I wish to avoid at all costs giving the impression that I am prescribing a formula. Rather I am suggesting, for the reader's interest, ingenuity, and resourcefulness to play upon, a philosophy, an analytical and historical approach to problems which are quantitatively in detail as different as every bank is different, and qualitatively are as alike as are the objectives of the entire commercial banking system.

1879—January 2 . . . Resumption of specie payment at ten o'clock brought forth a "salute fired at the Brooklyn Navy Yard." Flags were seen on the New York Stock Exchange and on most of the banks.

The Demand for Wool and the Inventory Cycle

FRED J. RAFAEL

PRESENT CONDITIONS in the world markets make a thorough analysis of demand and supply more necessary than ever before. The supply of raw wool is, on the whole, fairly well established. The demand picture, however, appears rather uncertain in many respects. This is particularly unfortunate in a commodity such as wool, the supply of which cannot expand quickly in response to high prices, so that changes in demand exert great influence on the price. This article, based on our analysis of apparel wool consumption in the United States, will, I hope, contribute to the measurement of the United States demand for raw wool, which is of particular importance at a time when it constitutes such a large part of the world demand for apparel wools.

PRINCIPAL FINDINGS

The principal findings of our analysis are:

1. Total demand for apparel wool—as measured by raw wool consumption—is composed of consumer demand and inventory demand, inasmuch as wool consumption in excess of retail sales increases inventories at some stage of production or distribution, while, conversely, wool consumption below retail sales reduces inventories.

2. These inventory changes show a rather well-defined cyclical pattern.

3. The inventory cycle is closely and positively related to changes in the price of wool; that is, the accumulative phase of the cycle is accompanied by rising prices and the period of inventory reduction by falling prices.

4. Forecasts of total demand and of wool prices, therefore, should be based on estimates of inventory demand in addition to calculation of consumer demand.

The wool-consuming industries are characterized by relatively long-term buying commitments and by large holdings of inventories at many stages of production and distribution down to the retail level. These large stocks and outstanding orders contrast sharply with the limited inventories, particularly of finished goods, held customarily by other branches of the textile industry, such as the cotton- and rayon-consuming groups. The explanation of this difference is to be found in the almost complete absence of the greige goods stage in the wool field. Whereas the cotton or rayon converter can style his goods literally a few days before delivery, the styling of woolen and worsted cloth is already determined at the spinning level. Since the successive manufacturing stages of combing, spinning, weaving, cutting, and sewing take considerable time, the retailer would have to order complete specifications of each garment about six months before he needs it. In practice, however, only part of his anticipated needs are ordered before the beginning of the season, whereas the remainder, as a rule, is specified later on. The clothing manufacturer, similarly, orders from the mill a part or all his anticipated needs for the season (depending on his expectation of price trends), but specifies styles and colors on part of his order only, until the reorders from the retailers come in. The mill, on the other hand, must order the yarn or the raw wool necessary to manufacture the full amount of goods it has on order, unless it wants to speculate on falling prices. Therefore, buying commitments from the mill level up must be large, particularly at the beginning of the seasons. Raw wool stocks, naturally, will be large when the clip comes on the market and will be reduced gradually during the course of the year.

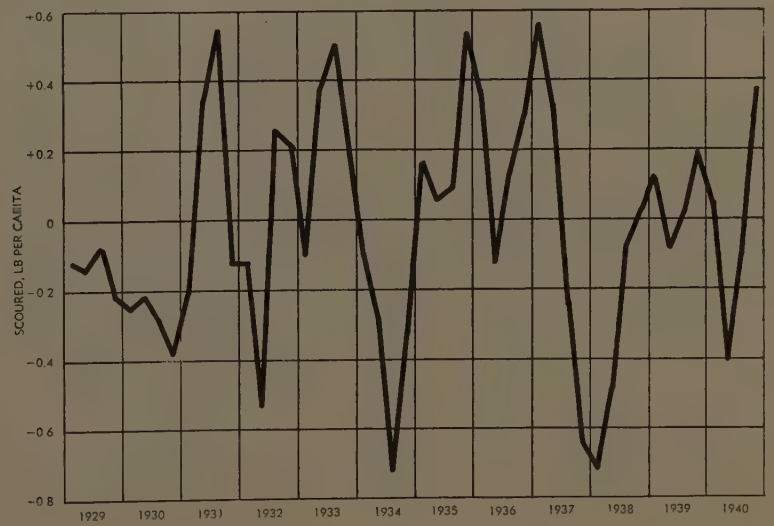


Figure 1. Inventory demand for worsted wool. Annual rate adjusted for seasonal variation

We know that inventories are large—from the holdings of raw wool to the stocks of finished clothing on the racks of retailers. In fact, at the end of 1939 they were estimated at more than the whole year's consumption. Though this single figure is far from sufficient to prove our point, it is understandable that a contraction or expansion of these inventories throughout the industry may have great effects on the amount of wool consumed and on the price of wool.

In spite of their importance to every businessman, changes in inventories in the aggregate industry and trade cannot be measured directly in the absence of sufficient statistics and in view of the shortcomings of those that do exist. An indirect approach, however, is possible. We can estimate with a degree of accuracy sufficient for our purposes, the approximate retail sales of goods made of apparel class wool by establishing the normal pattern of relationship of consumers' income to wool consumption, since the volume of retail sales is generally well in line with what is left of personal income after taking care of taxes, savings, and changes in the purchasing power of the dollar. We made this estimate by quarter-years for the period 1929–40 and checked its results with our earlier study of retail sales of men's clothing. We also extended our calculation back to the years 1920–28, and both comparisons proved highly satisfactory.

Of course, the difference between our estimated consumer demand and actual raw wool consumption must represent changes in inventories. Figure 1 shows these inventory changes for the years 1929–40 plotted on the basis of pounds (scoured) per capita. The most interesting feature of this chart is the clear cyclical character of these inventory changes. In every even year from 1930 to 1940 there is a bottom, and in every odd year from 1929 to 1939 a peak is reached. The peaks in 1929 and 1939 are not so well developed as the others, but the crash in 1929, and the outbreak of the war in Europe after the preceding uncertainties such as the Czech crisis, may very well account for the limited inventory accumulation in these years. In 1936, on the other hand, there was very little inventory reduction. That was the year of the soldiers' bonus amounting to $1.5 billion, of which apparently a larger than usual share was spent for clothing. Apart from the cases just mentioned, inventories show a rather regular two-year cycle of alternating contraction and expansion.

INVENTORY CYCLE AND WOOL PRICES

The comparison with wool prices shows that these inventory changes coincided with changes in the wool price (Figure 2). When the inventory cycle turned up, wool prices went up, and, when inventories were reduced, the wool price dropped. In fact, the relation between changes in inventories and changes in prices can be expressed math-

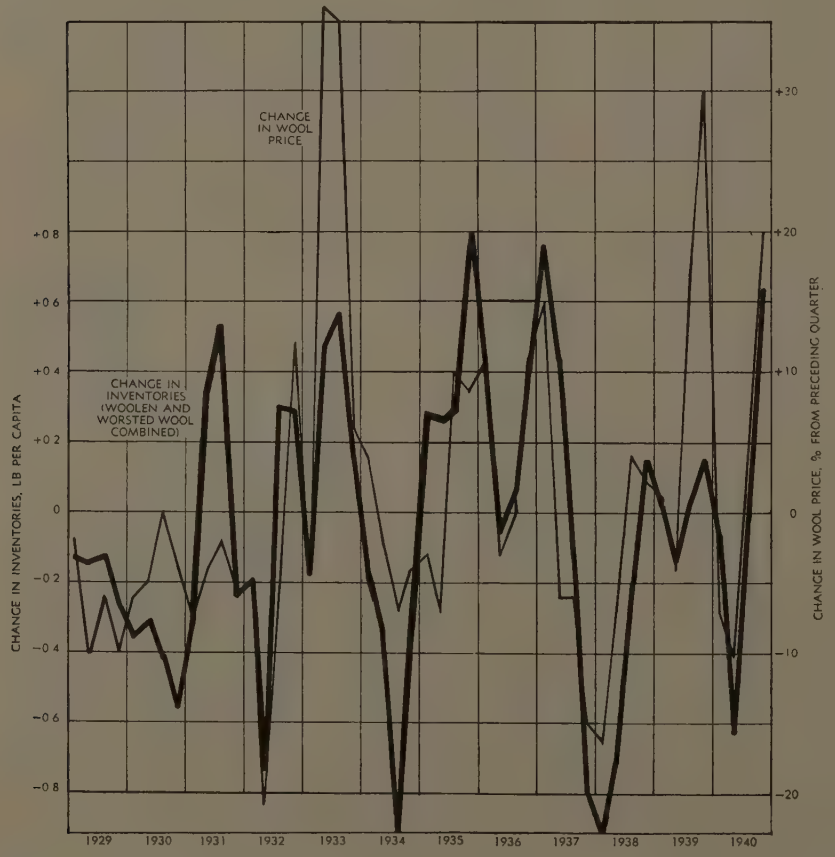


Figure 2. Inventory demand and wool price.

ematically, and this relation held true with only slight differences in timing (explained by more or less accurate anticipation), whenever the normal relation was not distorted by some "outside" event, such as tariff changes (1930), currency devaluation (1931), NRA (1933), the textile strike (1934), and the outbreak of the war (1939). With these exceptions, the average relation explained 82% of the variation in the wool price, and this percentage would be still higher, were it not for the occasional differences in timing.

FURTHER RESEARCH NEEDED

Valuable as this relationship proved to be, it does not by itself indicate a causal connection. Further research will be needed to clarify this problem. For the time being, we assume that such a causal connection exists and that both factors act on each other, so that each is a cause as well as an effect of the other. Our theory of the mechanics of the inventory cycle will show this.

The two-year duration of the cycle is basically determined by the seasonal character of the business. Let us begin by assuming that retailers in general find themselves for one reason or another with a large carryover at the end of the winter season. To reduce their inventories, they will of necessity order for the next winter a smaller number of garments than they expect to sell. For reasons that will be discussed presently, they are likely to reduce their inventories so much that they will have to stock up again the next year. Since most of the apparel made of wool is of distinct seasonal character, inventory adjustments at the retail level will show this cyclical character, unless it happens that all retailers on balance find that their inventories are just right.

OTHER FACTORS MAGNIFY FLUCTUATIONS

There are, however, other factors at work, which magnify the retail inventory fluctuations. When retailers cut down on their orders, clothing manufacturers and mills will also try to bring their inventories and commitments in line with the unfilled orders on their books. The reduction in the orders they place with their suppliers, therefore, will be greater than the decline in the orders they received. The same will, in all probability, be true of the mills' suppliers. Thus, the chain of supply is bound to magnify changes in inventory policy originating at the retail end, so that the resulting drop in demand for raw wool finally affects its price.

PRICE CHANGES INTENSIFY FACTORS

Price changes, in themselves, however, act to intensify the factors that caused them. Clothing manufacturers and mills do not always fully cover their requirements at the beginning of the season, as price considerations play an important part in their policy decisions. When prices decline, clothing manufacturers and mills expect cancelations from their customers, in addition to a minimum of reorders and attempts at reduction of existing commitments. Since no way has been found to change such practices, falling wool prices will cause mills to reduce their purchases to the lowest possible level.

When prices rise, on the other hand, mills know that their customers will want all the goods they have contracted for, and more. Therefore, mills will not only cover the orders they have on their books, but may, in addition, increase their commitments and stocks in anticipation of further orders.

TRENDS AFFECT RETAILERS

The retailer, too, will be similarly affected by price trends. In a falling market he is able to cover his requirements at the last moment, since his suppliers will have ample stocks. The later he orders, the lower may be the price he has to pay. In a rising market, however, it is to his interest to order early and protect himself against further price rises. Thus, inventory reduction leads to falling prices, and falling prices, in turn, put a premium on further inventory reduction. It is not surprising, therefore, that inventories after a season of declining prices are so low that they must be replenished in the same season of the followng year.

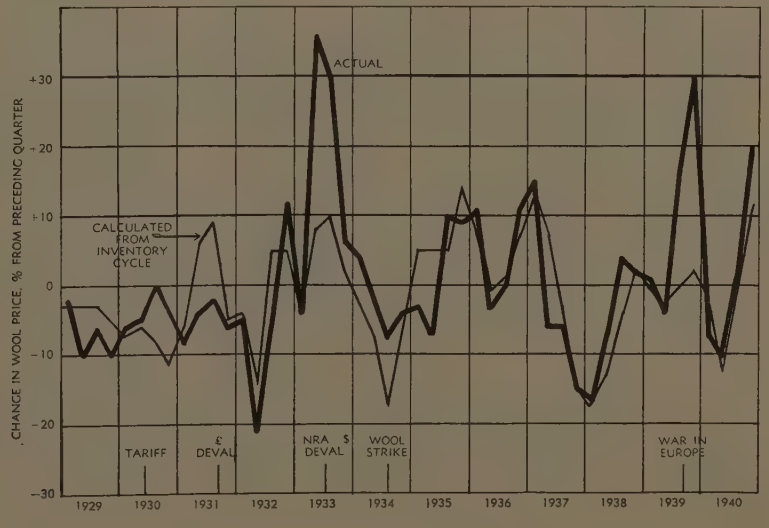


Figure 3. Wool price changes, actual and calculated.

Price changes, however, have also a negative effect on the volume of retail sales, the exact measurement of which is difficult in the absence of sufficient quantitative data and adequate price indexes. Our analysis of retail sales of men's clothing indicates that changes in wool prices are usually reflected six months later in changes of the sales volume, amounting to 2½ to 3% for every 10% change in the wool price.

Consideration of this effect completes the picture of the inventory cycle. Voluntary inventory accumulation is accompanied by rising wool prices. Price increases of 25 to 30% and more during half a year are quite frequent. It is not surprising, therefore, that higher retail prices cause also substantial involuntary inventory increases toward the end of the accumulative phase of the cycle. The same thing, conversely, happens before the lower turning point is reached. Voluntary inventory reduction goes hand in hand with falling prices, which after two to three quarter-years are reflected in lower retail prices. The resulting greater sales volume in turn reduces inventories below the planned level, until replenishment becomes inevitable.

The seasonal character of the end products of the industry thus explains why the impact of inventory accumulation and reduction must reverberate in two-year waves. What we do not know, however, are the factors that determine the magnitude of these waves. All we know is that the contraction phase of the cycle as a rule approximately equals the total inventory increase during the preceding phase of the cycle. We may speculate that the magnitude of the cycle may be influenced by the financial condition of the industry, or by the number of large business enterprises at the manufacturing and retail level; it may be affected by the relative proportions of fancy and staple goods, and of women's and men's wear. Of one thing, however, we may be certain, namely, that every period of inventory accumulation will be followed by one of inventory contraction in a cycle that will last roughly two years.

RELATION OF PRICE AND DEMAND

It remains to investigate the relation of inventory demand to the price of raw wool. In normal times a price rise of 2½% corresponded to inventory accumulation at an annual rate of 0.1 pound per capita (scoured). This relationship held true whenever it was not distorted by such "outside" events as tariff changes, currency devaluation, NRA, the textile strike, and the outbreak of war.

Events of this kind usually do not come without warning and need not be taken into consideration in forecasting wool prices for a period of, let us say, six months. However, the normal prewar relationship of inventory demand in the United States to the price of wool, which after all is determined in the markets of the world, has probably changed. Before the war, United States import demand averaged less than 3% of the total apparel wool production outside the United States. Our calculation of United States import demand for the year 1950 is based on estimates of population, income, and changes in inventories. It is considerably higher than forecasts by other sources, which seem to disregard these factors. If they were right, United States import demand would constitute about 12% of the world wool clip outside the United States. We, on the other hand, believe that it will be almost twice as much. In neither case does the prewar relationship furnish an adequate measure for the present situation. We can be certain, however, that the impact of the United States import demand on world wool markets will be far greater than before the war.

Our analysis, therefore, has enabled us to estimate the normal consumer demand as well as its modification by inventory demand. On the basis of these calculations we can further estimate the impending changes in the trend of wool prices, for which, however, careful calculation of such other factors as effects of currency devaluations, increased use of synthetic fibers, and depletion of wool stocks, is prerequisite.

* * *

The manufacturers of this article (iron) are entitled to pre-eminent rank. None are more essential in their kinds, nor so extensive in their uses. They constitute, in whole or in part, the implements of the materials, or both, of almost every useful occupation. Their instrumentality is every where conspicuous.

Alexander Hamilton

1844 . . . "New mode of manufacturing malleable iron directly from the ore invented," and by 1845 a New York paper announced, "At this moment our iron business is increasing with a rapidity absolutely without parallel in this or any other country."

1901—February 23 . . . United States Steel Corporation organized. "All classes and conditions of men came tumbling into the market. . . . Elevated cars in the mornings and hotel cafes at night hummed with stock tips and market gossip."

The Brewing Industry Achieving Investment Status

DONALD B. MACURDA

SUMMARY

THE BREWING INDUSTRY in the United States should appeal to the investors because:

1. It has a strong, consistent, and reasonably predictable growth trend.

(*a*) Measured by average annual withdrawals by five-year intervals, the industry's sales from 1886 to 1910 were increasing about 54% every ten years. The average annual sales of the four-year period, 1946–49, show a gain of 60% over the average for the five-year interval, 1936–40.

(*b*) Conservative projections, bringing per capita consumption up to preprohibition peaks, should increase consumption by 20 million barrels or 23% by 1955.

(*c*) The change in retail selling outlets with the advent of packaged beer and acceptance of malt beverages in the home could mean the beginning of a new growth cycle for the industry.

(*d*) As the "drink of moderation" and as a result of World War II, beer is finding its greatest acceptance among the younger age group, promising a high level of demand for a fairly long period ahead.

(*e*) The feminine market could result in a substantial gain in per capita consumption in the United States over the coming years. Widening social acceptance is already indicated in this potentially richest field for expansion in use.

(*f*) A permanently higher export market, barring temporary interruptions due to exchange difficulties, seems likely as a result of the war. In 1948 exports were ten times higher than the prewar average.

TABLE 1

Depression	Per Cent Change: U. S. Ind'l. Activity*	Per Cent Change: Per Capita Consumption of Beer
1864–65 period of uncertainty	—11.4	+ 1.0
1866–67 primary postwar	— 3.2	— 1.8
1872–77 secondary postwar	—19.1	— 1.5
1881–85 depression of 1884	—18.3	+22.1
1890–94 panic of 1893	—19.4	+11.8
1902–04 "rich man's" panic	— 7.3	+ 4.0
1906–08 panic of 1907	—22.0	+ 3.5
1910–11 war depression	— 7.0	+ 5.0
Prohibition Era 1919–33	..	..
1937–39 depression of 1938	—23.4	— 3.0

*Cleveland Trust Co. Index of U. S. Ind'l. Activity, corrected for seasonal variation and secular trend.

2. Its record shows a relative immunity to depression and to competition from other thirst-quenching drinks.

(*a*) That the industry has shown unique stability in periods of depression may be seen from Table 1. Any further depressions should also have a relatively moderate effect on consumption.

(*b*) Beer is more than holding its own in competition with other liquids for the consumer's dollar.

(*c*) Beer prices, despite increased Federal and state excise tax loads, show less inflation currently at the retail level than prices for other fluid drinks such as coffee and distilled spirits.

3. The proportion of business being done by the larger companies is increasing steadily. This in itself could provide further wide gains in sales and profits for those companies.

(*a*) In 1948 the fifteen largest brewers accounted for 40% of all malt beverages sold. Within ten years 80% of total beer sales are expected to be concentrated among the top 15 brewers.

4. The finances of leading brewery companies appear sound.

(*a*) Capitalizations are still conservative, despite the heavy expansion programs of the past three years.

(*b*) Inventory turnover is fairly rapid (averages 15 times net sales excluding excise taxes), thereby reducing inventory risks to a minimum level.

(*c*) The brewing industry has relatively low labor costs (average for industry approximately 16% of net sales).

5. Leading brewery stocks qualify as high grade investment issues.

(*a*) In England and other places on the Continent, they have long been considered of top quality and sell at premium prices over many other types of securities.

(*b*) Brewery stocks in the United States generally are just becoming known and marketwise might be described as entering the accumulative stage. The fact that many of the companies are closed corporations and that those with securities outstanding in the hands of the public are still closely held has contributed to the lack of knowledge about the industry. Further expansion programs in the offing and the growing pressure on large holders for money for tax and other purposes should increase the availability and marketability of brewing industry stocks, as well as substantially enhance their value, in the years ahead.

MAJOR COMPANIES IN BEST POSITION

We believe the major companies in the field are in the best position to capitalize on future growth. Of the stocks outstanding in the hands of the public, Pabst, Anheuser-Busch, Falstaff, Griesedieck Western, Pfeiffer, and Goebel, among others, are considered attractive holdings. Of these we believe that Pabst and Anheuser-Busch possess somewhat stronger investment characteristics and should be given first consideration.

BACKGROUND AND LONG-TERM GROWTH TRENDS

The brewing of malt beverages as a business in the United States dates shortly after the arrival of the original settlers. Numerous claims have been made as to the loca-

tion and date of establishment of the first brewery in this country. One asserts that the first was built by the Dutch West India Company in lower Manhattan in 1623.

Internal Revenue Bureau records of tax-paid withdrawals of malt beverages date from 1863 and of production from 1891. These together with per capita consumption figures show a steady growth in consumption up to the advent of prohibition. A summary of the long term trend since 1876 is given in Table 2.

The fiscal year 1948 saw both production and tax-paid withdrawals at new all-time highs. The fact that the industry did not duplicate this performance in the fiscal year just ended is explainable by general setbacks in business in various parts of the country and the strikes experienced by Wisconsin and New York brewers. The figures for the two years appear in Table 3.

TABLE 2. AVERAGE YEARLY CONSUMPTION BY BARRELS AND PER CAPITA

Fiscal Years Ending June 30	*Total Tax-Paid Withdrawals,* bbl of 31 gal	*Per Capita Consumption,* gal
1876–80	10,880,815	7.0
1881–85	17,441,115	10.0
1886–90	24,238,895	12.4
1891–95	32,749,308	15.2
1896–1900	36,730,892	15.5
1901–05	45,862,862	17.6
1906–10	57,546,808	20.1
1911–15	63,284,635	20.4
1916–19, 4 years	39,412,449	12.0
1920–33	Prohibition era	
1934–35, 2 years	37,247,435	9.1
1936–40	52,581,784	12.5
1941–45	67,770,439	15.8
1946–49, 4 years	84,172,972	18.0

Source: U. S. Brewers Foundation. Based on yearly figures of U. S. Treasury Dept., Bureau of Internal Revenue.

TABLE 3

Year	*Population**	*Production* Bbl	*Withdrawals* Bbl	*Per Capita Consumption,* gal
1948	146,114,000	91,291,219	86,992,795	18.5
1949	148,720,000	89,721,552	85,810,832	17.9

*Excludes Armed Forces overseas.
Source: U. S. Brewers Foundation.

PER CAPITA CONSUMPTION

The peak per capita consumption years in the preprohibition era were 1911, 1913, and 1914, when per capita consumption reached 21 gallons. The industry figures show a rapid recovery in per capita consumption since realization but have yet to reach former levels, despite the expansion in the general economy of the United States during and since World War II. A projection of the per capita trend since 1934, however, indicates that consumption by 1955 should return to and possibly exceed the 21-gallon level, given reasonable full employment conditions. The fact that the current per capita consumption trend line has yet to reach the base trend from 1877 through 1915 seems due to the following factors:

1. A lost generation of beer drinkers was created through prohibition from 1920 to 1934. It could be estimated that some 14 million to 15 million people because of prohibition were slow to acquire beer-drinking tastes. This in itself largely explains the deficiency between current consumption and the base trend line.

2. Wartime allocations and restrictions interrupted consumption trends, although offset in part by shipments to Armed Forces abroad. The latter group presumably will provide a strong base demand for malt beverages for many years to come.

3. Initial postwar restrictions on raw materials were an additional retarding factor.

POTENTIAL MARKETS

These projection techniques (fitting a Gompertz curve to both the pre- and postprohibition annual consumption figures) indicate total malt beverage consumption by 1955 could reach a 115-million-barrel level under normal conditions, or an indicated per capita consumption of 22.8 gallons. This seems slightly optimistic on the basis of past maximum per capita consumption data (21 gallons or 224 twelve-ounce bottles or cans per head in one year) and the 1948 level of 18.5 gallons (197 twelve-ounce cans). In other words, to reach the projection for 1955 would require a pickup in beer consumption equivalent to 50 twelve-ounce cans per person in seven years' time. More conservative projections of consumption are given in Table 4.

TABLE 4

Fiscal Year Ending June 30	*U. S. Population**	*Gallons per Capita*	*Consumption, bbl†*
1948	146,114,000	18.5	86,992,795
1949	148,720,000	17.9	85,810,832‡
1955 (est)	156,360,000	18.5	93,311,000
1955 (est)	156,360,000	21.0	105,921,000

*Population excludes Armed Forces overseas. The figures for 1955 are based on an estimated population of 151 million as of June 30, 1950, and an average annual percentage increase for the next five years at the average annual rate for the decade 1932–41 of 0.7%.
†Barrels of 31 gallons.
‡Unaudited.
Sources: 1948 and 1949, United States Brewers Foundation.

The preceding projections indicate a 1955 level of malt beverage consumption roughly between 93 and 106 million barrels. These projections are geared largely to the consumption habits of preprohibition years. The advent of packaged beer in the home and the increasing acceptance of beer as a beverage by the feminine population could conceivably lay the basis of a new trend in consumption, although such a trend is not yet apparent in the over-all figures. Even on the basis of the more conservative projections outlined previously, it is possible to envisage an increase in consumption in the next six years of some 7 to 20 million barrels or 9 to 23%.

GROWTH OF PACKAGED BEER

Probably the most important single development in the brewing industry in the past fifteen years has been the growth in use of packaged beer. It has changed the industry

TABLE 5. CONSUMPTION OF MALT BEVERAGES, BY STATES

Fiscal Years Ending June 30	Packaged Beer	Draught Beer	Total Malt Beverages	% Packaged Beer	% Draught Beer	Per Capita Consumption of Packaged Beer, gal
		Bbl of 31 gal				
1934	8,011,588	24,254,451	32,266,039	24.8%	75.2%	1.96
1939	24,729,985	27,086,889	51,816,874	47.7	52.3	5.87
1944	47,232,871	29,736,893	76,969,764	61.4	38.6	11.06
1949	59,959,096	25,851,736	85,810,832	69.9	30.1	12.50
Per Cent Change						
1934–49	+648.4%	+ 6.6%	+165.9%			+537.8%
1934–39	+208.7	+11.7	+ 60.6			+199.5
1939–49	+142.5	— 4.6	+ 65.6			+112.9

Source: United States Brewers Foundation, taken from U. S. Treasury Dept., Bureau of Internal Revenue figures.

from small local monopolies with inefficient distribution systems to national, partly national, and large regional brewers with better reputations and following modern merchandising and distributing methods. Immediately after relegalization there was a brief flurry in packaged sales due to a shortage of barrels. When the barrel manufacturers caught up with orders, the industry was again 75% draught and 25% packaged. In 1935, the same year that canned beer was introduced, the packaged market began to rise. For the fiscal year ending June 30, 1949, sales of bottled and canned beer accounted for 69.9% of total beer sales. The year 1955 should see the latter figure increased to 75%, a complete reversal from the proportional sales relationship of 1935.

Table 5 shows respective changes in the relationship of packaged beer and draught beer by five year intervals. Numerous factors appear to have been responsible for this trend. Among the most important are:

1. Increased consumption of beer in the home.
2. More convenient and attractive packaging. Since 1935 a wider choice of containers, including cans and new bottle types, has been made available to the public. These containers have been backed by the competitive advertising efforts of the glass bottle and can makers, and the brewers themselves have advertised packaged beer extensively.
3. Stricter regulation of on-premise consumption, and limitation of off-premise sale to packaged beer in some areas.

BEER PREFERENCE BY INCOME AND AGE GROUPS

Two recent consumer polls, summarized in the *American Brewer,* throw some illuminating light on the distilled-spirits- and beer-drinking habits of people in the United States.

The Crosley-Argosy Report indicated that, of the men interviewed and consumers of alcohol, the percentage of beer consumers according to living standards was approximately as follows: lower income, 50.8%; middle income, 56.4%; and upper income 43.9%. These figures are important, both from the standpoint of the redistribution of income process of the past decade and as added evidence of beer being the common man's drink.

The Crosley-Argosy Report also indicated beverage preference by age groups. For beer it was given as follows: 18–24, 52.4%; 24–35, 59.6%; 35–44, 53.4% and 45–64, 42.7%. The fact that beer is apparently preferred in the younger age brackets gives assurance of a sustained demand for beer in the years ahead.

TABLE 6

Preprohibition Dry Population by States		Postprohibition Population in Areas Dry for Beer, by States		
Year	Dry Population	Year	Population	% of U. S. Dry for Beer
1915	54,989,242	1934	9,382,891	7.6
1917	62,520,192	1937	6,536,009	5.3
1919	71,263,042	1941	8,088,514	6.1
		1945	11,325,280	8.5
		1948	12,992,323	9.9

TABLE 7

1947 Sales by Beverage	Bbl	1947 Sales by Containers	Bbl
Beer	79,100,000	Bottles	51,800,000
Ale	7,800,000	Draft	28,200,000
Porter, stout etc.	100,000	Cans	7,000,000
Total	87,000,000	Total	87,000,000

FEMININE BEER CONSUMPTION

The feminine market potentially could result in a substantial gain in per capita consumption in the United States over the coming years. The *Cosmopolitan* questionnaire already shows that a surprisingly large percentage of women drink beer as a beverage every day, or at least on several days during each week. Another group, roughly one third of the nation's female population, drink beer occasionally. Increased consumption seems likely with wider social acceptance, plus convenience in purchasing and sound pricing policies.

Table 6 shows preprohibition and postprohibition "dry" sentiment.

CONSUMER PREFERENCE FOR MALT BEVERAGES AND FOR TYPE OF PACKAGE

Consumer preference for malt beverages is represented by sales according to the Department of Commerce in 1947 as indicated in Table 7. More recently, as allocations and restrictions on steel and tinplate have been removed, the percentage of beer sales packaged in cans has moved up sharply from 10.9% in 1947 to 18.1% for the first six months ended June 30, 1949. Some observers feel that

TABLE 8. CONSUMER EXPENDITURES FOR SELECTED BEVERAGES
Millions of Dollars

Year	Personal Consumption Expenditures	Coffee	Est. Retail Carbonated Beverages	Distilled Spirits	Wine	Beer	Total Alcoholic Beverages
1934	$ 51,882	$ 407	$ 207	$ 665	$ 90	$1,325	$2,080
1935	56,215	448	240	995	140	1,530	2,665
1936	62,515	421	345	1,305	170	1,850	3,325
1937	67,121	432	418	1,470	185	1,980	3,635
1938	64,513	458	468	1,395	190	1,845	3,430
1939	67,466	446	543	1,510	210	1,910	3,630
1940	72,052	439	618	1,675	260	1,935	3,870
1941	82,255	494	831	1,980	325	2,250	4,555
1942	91,161	522	789	2,685	410	2,575	5,670
1943	102,244	505	870	3,200	415	3,025	6,640
1944	111,550	651	936	3,850	505	3,510	7,865
1945	123,079	674	868	4,400	495	3,720	8,615
1946	147,758	933	885	5,060	635	3,805	9,500
1947	166,940	1,197	1,047	4,560	525	4,555	9,640
1948	178,788	1,278*e*	1,207*e*	3,900	455	4,445	8,800
Per Cent Gain							
1948 vs. 1934	244.6	214.0	483.1	486.5	405.6	235.5	323.1
1948 vs. 1941	117.4	158.7	45.2	97.0	40.0	97.6	93.2
1948 vs. 1946	21.0	37.0	36.4	—22.9	—28.3	16.8	— 7.4

e—estimated.

Sources: *Tea & Coffee Trade Journal;* Bureau of Labor Statistics, Statistical Abstract of the U. S.; *Commodity Yearbook; The Economic Almanac for* 1949, National Industrial Conference Board; 20th Century Fund, America's Needs & Resources; *Survey of Current Business* and 1947 Supplement.

TABLE 9

Year	Coffee, lb	Malt* Beverages, gal	Packaged Beer Only*, gal	Distilled Spirits, gal	Wine, gal.	Tea, lb
1934	12.0	7.9	2.0	0.5	0.3	0.58
1941	15.7	12.3	6.5	1.2	0.8	0.73
1946	19.4	17.8	11.8	1.65	1.0	0.53
1948	18.0*e*	18.5	12.6	1.16	0.8	N.a.
Per Cent Change						
1948 vs. 1934	+50.0%	+134.2%	+530.0%	+132.0%	+166.7%	—
1941 vs. 1934	+30.8	+ 55.7	+225.0	+140.0	+166.7	+25.9%
1948 vs. 1941	+14.6	+ 50.4	+ 93.8	— 33.2	—	—
1948 vs. 1946	— 7.2	+ 3.9	+ 6.8	— 29.7	— 20.0	—

*Fiscal years ending June 30. N.a.—Not available. *e*—estimated.
Sources: *Tea & Coffee Trade Journal;* Bureau of Labor Statistics, Statistical Abstract of the U. S.; *Commodity Yearbook; The Economic Almanac for* 1949, National Industrial Conference Board; 20th Century Fund, America's Needs and Resources; *Survey of Current Business* and 1947 Supplement.

TABLE 10. PER CAPITA CONSUMPTION
In Terms of 7-Oz. Bottles

Year	Carbonated Beverages*	Packaged Beer
1934	31.9	35.9
1941	129.1	118.6
1946	126.5	215.9
1948	159.3*e*	231.0
Per Cent Change		
1948 vs. 1934	+399.4%	+543.5%
1941 vs. 1934	+304.7	+230.4
1948 vs. 1941	+ 23.4	+ 94.8
1948 vs. 1946	+ 25.9	+ 7.0

*99% of soft drinks sold are carbonated. *e*—estimated.
Sources: Based on original figures from *National Bottlers Gazette* for carbonated beverages and U. S. Brewers Foundation for beer.

beer sales by cans will reach 25% of total packaged sales in the not too distant future. In 1948 can manufacturers produced over 2.9 billion beer cans. In 1949 it is estimated that this figure should be close to 3.4 billion, and by 1950 conservative estimates place it at a minimum of 4 billion.

Several brewers are experimenting with a smaller 7-ounce container. One brewer, Goebel, has already promoted a 7-ounce bottle with considerable success. Conceivably, any packaging that makes beer increasingly convenient to the consumer will act as an over-all stimulant to industry sales.

COMPETITION FOR THE CONSUMER'S DOLLAR

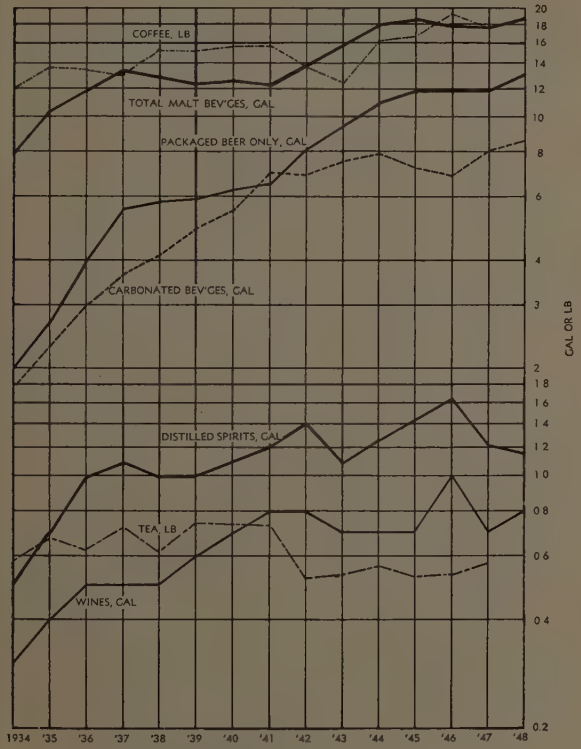
Beer is but one of a number of thirst-quenching drinks and accordingly is in competition with other liquids for the consumer's dollar. In terms of dollars actually spent, before World War II (or from 1934 through 1941) consumer consumption of coffee increased 21%, beer 70%, distilled spirits nearly 200%, carbonated beverages nearly 253%, and wine 260%. Following the war, the individual trends show substantial shifts in demand. 1948 expenditures compared with 1941 show approximately the following percentage changes: Wine, up 40%; carbonated bever-

ages, plus 45%; distilled spirits, plus 97%; beer, plus 98%; and coffee, plus 159%.

The shifts in consumer beverage expenditures show up even more clearly if the period from 1946 to 1948 is considered. Less of the consumer's dollar is now going for distilled spirits and wine, while expenditures for beer and coffee continue to show gains. The dollar figures showing personal consumption expenditures and consumer expenditures for selected beverages are given in Table 8.

PER CAPITA CONSUMPTION OF SELECTED BEVERAGES

Annual per capita consumption from 1934 through 1948 of various beverages, expressed insofar as possible in gallons, is shown in the accompanying chart. This is probably the most accurate measurement of consumer preference, the figures allowing for both the influence of price on consumption and changes in individual drinking habits. Figures for selected prewar and postwar years are given in Table 9.



Per capita consumption in the United States.

Of the different drinks, coffee on a pounds per capita basis shows successively higher plateaus of consumption. Malt beverages have shown a wider gain in per capita consumption since 1934, while packaged beer (with the advent of beer consumption in the home) in itself shows a strong upward growth trend. Distilled spirits, after showing sharp gains in consumption in the last two years, have been losing out in popular favor. Consumption of wines increased sharply from 1934 through 1941 and since then has been relatively stable with the exception of 1946 when wine sales were used in tie-in sales with stronger spirits. Tea drinking as a habit in the United States apparently is of relatively minor importance, and consumption has moved downward over the thirteen years reviewed.

Probably the closest competition to packaged beer is carbonated beverages, although even here the consuming markets are partially different in character. Table 10 shows the growth in per capita consumption of carbonated beverages and packaged beer (consumption of both is expressed in terms of 7-ounce bottles) for selected years. Since 1942 per capita consumption of packaged beer has shown a greater rate of growth than that of carbonated beverages as may be seen from the chart.

TABLE 11. YEARLY AVERAGE

Period	Number of Breweries	Production†	Production Per Unit
		Bbl	
1900	1,816	39,471,593	21,605
1901–05	1,780	45,934,406	25,806
1906–10	1,660	57,615,449	34,707
1916–20	978	*	*
Prohibition period, 1921–33			
1935	750	45,228,605	60,305
1936–40	680	55,132,500	81,077
1941–45	493	77,655,741	157,517
1946–48	466	88,041,940	188,931
1948	466	91,291,219	195,904
Per Cent Change			
1900–48	—74.3	+131.3	+806.8
1900–35	—58.7	+ 14.6	+179.1
1935–48	—37.9	+101.2	+224.8

*Figures not indicative for five-year period owing to advent of prohibition era.
†Fiscal years ending June 30.
Sources: U. S. Bureau of Internal Revenue; U. S. Brewers Foundation.

TABLE 12

Calendar Years	Sales of 25 Leading Brewers in the U.S.*	Total Tax-Paid Withdrawals†	Ratio of 25 Leading Brewers' Sales to Total Tax-Paid Withdrawals, %
1944	29,745,000	79,514,204	37.4
1945	32,019,000	81,841,395	39.1
1946	30,408,000	79,540,496	38.2
1947	38,893,000	87,172,334	44.6
1948	41,772,000	84,918,572	49.2

*A National Survey of the Brewing Industry, 1949 edition, Research Company of America, 1944, 1945, and 1946.
†United States Brewers Foundation.

EXPORTS AND IMPORTS OF MALT BEVERAGES

Total exports of malt beverages from the United States for 1948 were about ten times the prewar level. Although still small in relation to total production in the United States, this indicates a permanent and increased market for domestic beer outside the country as a result of exports to the armed services during the war. Exports for the first six months of 1949 were approximately 22.7% below the level of the corresponding period of the previous year, and recent currency devaluations may temporarily cause some further

TABLE 13
Thousands of Dollars

Year	*Wages*	*Cost of Materials, Supplies, Fuels, and Electric Power*	*Value Added by Manufacture*	*Value of Products Shipped*	*Expenditures for New Plant and Equipment*
1935	$ 60,615	$139,918	$280,112	$ 420,030	
1937	79,275	201,917	335,189	537,105	
1939	62,231	162,897	363,180	526,077	$ 20,200
1947	210,228	508,908	808,946	1,317,854	111,000

Source: Department of Commerce, Bureau of the Census.

TABLE 14
Per Cent Increase or Decrease

	1945 *vs.* 1941	1948 *vs.* 1941	1948 *vs.* 1945
Fifteen largest	+37.9	+84.9	+34.1
Remainder of the industry	+45.6	+33.1	— 8.6

decline in export volume. However, once international currencies are again in reasonable relationship, the quality of United States beers and the advent of packaged beer should provide a permanently larger outlet for United States production over the longer period.

CONCENTRATION IN THE INDUSTRY

An internal trend within the brewing industry, carrying the potential of exceptional capital gains to the long range investor, is the steady contraction in the number of producing units through the years and correlatively the rise in average production per unit and of large units. Based on parallel patterns in other fields, the industry should witness a rapid acceleration of this trend in the next decade with the resultant emergence of a few dominant factors doing the bulk of the business. Growing concentration in the malt beverage field is brought out in Tables 11 through 14.

As compared to 1900, the malt beverage industry in 1948 was doing 131% more business with nearly 75% fewer plants. Since 1935 the industry shows a 101% gain in production, which is being accomplished by 38% fewer plants. The latest issue of the Treasury Department's list of "Occupations Subject to Special Taxes" gives the number of brewers as 436 in 1949, 461 in 1948, and 483 in 1947. Unofficial estimates are that the number of brewers operating by the end of 1949 is down to the 400 level.

The increasing proportion of business being done by the larger units in the field in recent years is shown by Table 12. Current expansion plans and stepped-up advertising programs of several top brewers indicate an increasing awareness of the trend and a determination to acquire a larger share of the national market, particularly through sales of packaged beer.

The periodic Census of Manufactures reports (omitted during the war years but resumed in 1947) also confirm the increasing importance of malt beverage production as a national industry, as may be seen from Table 13. Expenditures for new plant and equipment for 1950 are estimated at a minimum of $130 million, according to an article in the *Modern Brewery Age* for September 1949. The present trend is for increasing sales by large producers and those doing an outstanding job in merchandising. Some brewers are being eliminated in the lower price bracket, particularly those who are having difficulty in maintaining local markets, because of the quality factor or inability to merchandise. The three large national distributors have shown steady increases in business, as have the large and progressive regional brewers, both gains being at the expense of the small local operations and to a smaller extent of the less efficient regional brewers. The Containers and Package Industry Report of the Commerce Department states that many small local brewers "who are experiencing difficulty in meeting competition from nationally advertised packaged brands, are turning to kegged beer and returnable bottles as more stable sellers in their home markets."

EXPANSION THE GENERAL RULE

On the distributive level, expansion rather than contraction appears to be the general rule. Wholesale malt liquor dealers have increased steadily in number from 12,374 in 1947 to 13,609 in 1948 and 14,038 in 1949. Retail dealers in fermented malt liquors (includes some transients) increased in number from 140,213 for the fiscal year 1947, to 160,613 for 1948 and 167,426 for 1949.

Beer sales in food stores for 1947 were more than four times greater than they were ten years ago, with average sales for stores of this type handling beer placed at $4,500 as against $1,200 for 1939. Total beer sales for food stores for 1947 were $312.7 million.

The *Brewers Digest* dated July 1949 carried an article by Jerome P. Curran of Owens-Illinois Glass Company, in which our Table 14, showing the percentage increase or decrease in sales for respective periods of the fifteen largest brewers versus the remainder of the industry, was included. In 1948 the fifteen largest sold over 40% of all the malted beverages withdrawn tax-paid in the United States. One leading regional brewer has estimated as much as 80% of the total beer sales in this country will be concentrated among the top fifteen brewers within ten years.

DECENTRALIZATION

Concurrent with the increase in concentration in the industry, the ever smaller number of operating brewers are expanding their production facilities by additions to main plants, the building of branch plants, or the absorption of smaller regional brewers. As an example of the latter, Pabst bought Los Angeles Brewing Company on May 12, 1948, opening up a strong outlet in the West Coast market. Anheuser-Busch with headquarters in St. Louis has recently announced a $30 million building program in

TABLE 15. COMPARATIVE GROWTH OF FIFTEEN LARGEST BREWERS

Estimated Sales by Barrels

Company	Location of Plant	Calendar Years 1948	1943	1939	Per cent Increase 1939 to 1948	1943 to 1948	1939 to 1948
NATIONAL BREWERS							
Characteristics: National advertising and distribution, plants usually in a number of marketing areas, and premium-priced products (up to 20% above average).							
Pabst Brewing Co.	Milwaukee, Wis. Peoria Hgts., Ill. Newark, N. J.	4,100,000	2,700,000	1,650,000	63.6	51.9	148.5
Los Angeles Brewing Co. (acquired 6/48)	Los Angeles, Calif.	748,929	500,000e	N.a.	...	49.8	...
Hoffman Beverage Co. (purchased 12/45)	Newark, N. J.	Merged	306,797	N.a.	...	...	...
Total Pabst		4,848,929	3,506,797	1,650,000	112.5	38.3	193.9
Jos. Schlitz Brewing Co.	Milwaukee, Wis.	4,279,535	3,132,000	1,652,000	89.6	36.6	159.1
Anheuser-Busch, Inc.	St. Louis, Mo.	4,050,000	3,565,000	2,305,983	54.6	13.6	75.6
Total 3 national distributors		13,178,464	10,203,797	5,607,983	82.0	29.2	135.0
Total tax-paid withdrawals		84,810,419	72,122,037	52,723,083	36.8	17.6	60.9
Three national distributors, % of total sales		15.5	14.1	10.6			
PARTLY NATIONAL BREWERS							
Characteristics: Distribution over large sections of the country: popularly priced product.							
P. Ballantine & Sons	Newark, N. J.	4,140,000	2,234,065	1,280,000	74.5	85.3	223.4
Feigenspan (merged 1913)		Merged	441,961	670,000	—34.0	...	...
Total Ballantine		4,140,000	2,676,026	1,950,000	37.2	54.7	112.3
Falstaff Brewing Corp.	St. Louis, Mo. E. St. Louis, Ill. New Orleans, La. Omaha, Neb.	2,303,000	1,300,000	680,000	91.2	77.2	238.7
Columbia Brewing (merged 7/31/48)	St. Louis, Mo.	140,000	260,000e	.....	—46.2	...	...
Total Falstaff		2,443,000	1,560,000	680,000	129.4	56.6	259.2
Blatz Brewing Co. (owned by Schenley Industries, Inc.)	Milwaukee, Wis.	1,375,801	912,000	678,100	34.5	50.9	102.9
Theo. Hamm Brewing Co.	St. Paul, Minn.	1,200,000	800,000	780,000	2.6	50.0	53.8
Goebel Brewing Co.	Detroit, Mich. Muskegon, Mich.	1,022,274	541,160	272,000	99.0	88.9	275.9
Total five partly national		10,181,075	6,489,186	4,360,100	48.8	56.9	133.5
Five partly national, % of total sales		12.0	8.8	8.3			
LARGE REGIONAL BREWERS							
Characteristics: Distribution mainly within a 300-mile radius, with concentrated marketing area. Popularly priced product.							
F. & M. Schaefer Brewing Co.	Brooklyn, N. Y.	2,250,000	1,777,000	1,305,022	36.2	26.6	72.4
Liebmann Breweries	Bronx, N. Y. Brooklyn, N. Y.	2,110,000	1,171,868	640,410	83.0	80.1	229.5
Jacob Ruppert	New York, N. Y. Norfolk, Va.	1,637,932	1,615,000	1,325,350	21.9	1.4	23.6
Griesedieck-Western	St. Louis, Mo. Belleville, Ill.	1,057,000	300,000	N.a.	...	252.3	...
Hyde Park Breweries Ass'n. (merged 11/20/48)	St. Louis, Mo.	263,000	425,000	N.a.	...	—38.1	...
Total Griesedieck-Western		1,320,000	725,000	N.a.	...	82.1	...
Fort Pitt Brewing Co.	Jeannette, Pa. Sharpsburgh, Pa.	1,202,397	575,000	225,000	155.6	109.1	434.4
Duquesne Brewing Co.	Pittsburgh, Pa.	1,110,000	960,000	650,000	47.7	15.6	70.8
C. Schmidt & Sons	Philadelphia, Pa.	1,098,725	735,000	572,475	28.4	49.5	91.9
Total seven largest regional brewers		10,729,054	7,558,868	Incomplete	...	41.9	...
Seven largest regional brewers, % of total sales		12.7	10.5				
Sales of 15 largest brewers, % of total tax-paid withdrawals		40.2	33.4				

N.a.—Not available.
e—estimate.
Source: *Brewers Journal*, various years.

TABLE 16

Years	U. S. Gov't. Excise, Special, and Occupancy Taxes	Per barrel of Consumption	Per 12-oz Container
1934	$168,959,585	$5.24	1.587c
1941	322,706,236	6.11	1.851c
1948	701,119,310	8.06	2.442c

TABLE 17

	Total Taxes, % of 1948 Gross Sales
Anheuser-Busch	39.3
Falstaff Brewing Co.	40.5
Pfeiffer Brewing Co.	44.5
Goebel Brewing Co.	44.6
Fort Pitt Brewing Co.	47.1
Average five companies	43.2

TABLE 18
Dollars Per Bushel

1937	$1.450	1947	$2.378
1939	0.855	1948	1.990
1941	0.888	1949, Oct. 1	1.800
1943	1.275	1949, Oct. 11	2.060
1945	1.625		

TABLE 19

Year	Wages and Salaries to Total Value of Products Shipped, %
1935	14.4
1937	14.8
1939	11.8
1947	16.0

TABLE 20

	Gross Sales (incl. Excise Taxes)	Net Sales (excl. Excise Taxes)
All taxes	43%	28%
Materials and supplies	28	36
Depreciation	2	2
Wages and salaries	13	16
Selling and adm. expense	6	6
Shipping and del. expense	2	4
Cash dividends	2	2
Retained in business	4	5
	100%	100%

Newark, N. J. Falstaff recently purchased Columbia Brewing; and Griesedieck-Western acquired Hyde Park. Many of the larger regional brewers are either in the process of or have recently announced building programs, adding substantially to existing capacities.

Table 15 shows the general classification, plant location, and growth of the largest brewers in the United States.

COST FACTORS

Taxes. Taxes constitute the largest individual item in the price of beer to the consumer. The Federal excise tax on production in 1948 was $8 a barrel, and state taxes averaged approximately $1.93 a barrel. In addition, there are Federal and state occupation taxes on brewers, wholesalers, and retailers, as well as local taxes in some states. To date, the Federal Government has made no move to repeal wartime excise taxes; and, although something might be done in this respect in 1950, it is by no means a certainty and probably would be selective rather than across the board. Importers of malt beverages are now required to pay the same Federal excise taxes as domestic manufacturers. This tax, plus the import duty, is $11.875 per barrel.

The increase in taxes (excluding income taxes) paid to the United States Government alone by brewers since the repeal of prohibition is illustrated in Table 16. State taxes range from a low of 50 cents per barrel in the District of Columbia or 1½ mills per 12-ounce container to $10 a barrel and 3 cents per 12-ounce container in Louisiana. Average state taxes approximate 6 mills per can. Total taxes (Federal and state excise, occupancy, special, and income taxes) average about 43.2% of gross sales of individual companies as may be seen from Table 17.

Raw Materials. The industry has made substantial progress in stabilizing costs over the past decade. About 46 pounds of grain were used in 1948 to produce a barrel of beer, as against 50 pounds in 1939. It is now possible to return approximately one third of the dry weight and about two thirds of the original cost to the farmers in the form of a popular protein-rich content feed for livestock, particularly dairy cattle. This results in a lowered net cost. Other by-products, such as brewer's yeast and vitamins, add to the profit margin.

TABLE 21

	Bbls. Sold		Per barrel Sold† Gross Sales‡		Net Sales		Net bef. Tax		Net Income	
	1948	1939	1948	1939	1948	1939	1948	1939	1948	1939
Pabst	4,536,877§	1,650,000	$34.00	$16.95	N.a.	N.a.	$5.37	$1.98	$3.25	$1.55
Anheuser-Busch	4,050,000	2,305,983	39.87	N.a.	$30.33	N.a.	5.43	3.76	3.32	3.04
Falstaff	2,303,000	680,000	23.51	N.a.	15.44	$9.56	3.19	1.17	1.88	.96
Griesedieck	1,057,000*	N.a.	21.99	N.a.	N.a.	N.a.	3.78	...	2.34	...
Fort Pitt	1,202,397	225,000	24.52	15.83	N.a.	N.a.	2.10	1.34	1.26	1.01
Duquesne	1,110,000	650,000	24.95	17.63	N.a.	N.a.	1.56	1.69	.92	1.31
Pfeiffer	1,093,664	391,000	23.18	15.10	13.79	9.43	3.12	1.94	1.96	1.58
Goebel	1,022,274	272,000	23.18	16.39	13.99	N.a.	2.53	1.46	1.59	1.22

N.a.—Not available.
*Excludes Hyde Park.
†Includes revenues from sale of beer and other products for many companies.
‡Includes excise taxes.
§Estimated barrels sold includes 4,100,000 for Pabst and 7 months average sales, or approximately 436,877, of Los Angeles Brewing acquired June 2.

TABLE 22

	Pabst Brewing	*Anheuser-Busch*	*Falstaff Brewing*	*Griesedieck Western*	*Fort Pitt Brewing*	*Duquesne Brewing*	*Pfeiffer Brewing*	*Goebel Brewing*
INCOME DATA								
Gross sales (incl. excise taxes)								
% increase								
1939–48	451.7	213.8	...	450.9	728.1	141.6	309.0	431.4
1947–48	38.3	17.1	49.2	72.1	31.9	—1.5	39.6	20.9
Net sales (excl. excise taxes)								
% increase								
1939–48	N.a.	...	447.1	N.a.	N.a.	N.a.	308.9	430.0
1947–48	N.a.	17.7	55.4	N.a.	N.a.	N.a.	39.3	25.7
Net before income taxes								
% increase								
1939–48	703.1	153.7	818.8	625.5	743.3	55.9	347.4	547.5
1947–48	10.7	35.6	74.2	78.1	10.0	—53.1	37.1	32.8
Net income								
% increase								
1939–48	521.5	92.0	566.2	448.9	556.5	20.0	245.2	393.9
1947–48	12.7	36.2	79.7	79.0	11.0	—53.4	32.1	34.7
Earned per common share								
	(*a*)	(*b*)	(*c*)	(*d*)	*	(*e*)	(*e*)	
1949 (est.)	$4.50	$3.30	$3.00	$5.00	N.a.	N.a.	$6.25	$1.50
1948	3.91	2.99	2.37	3.85	2.53	1.62	3.74	1.08
1939	0.63	1.56	0.33	1.10	0.38	1.36	1.08	0.24
Annual dividend rate								
Based on last qtrly. payment	$1.40	$1.00	$1.00	$1.80	$0.70	$0.60	$1.50 adj.	$0.80
PRICE HISTORY AND PRICE-EARNINGS DATA								
Approx. price ranges (adjusted for stock dividends)								
Calendar years								
1949 to date	29–18	26–18	23–12	29–19	12–8	12– 9	33–13	11–5
1948–46	23–13	30–19	14– 5	23– 8	11–7	17–10	15–10	9–4
Current price (12/13/49)	29	24	23	27	11	12	33	11
Price x earn. per com. sh.								
1948	7.4	7.3	9.7	7.0	4.3	7.4	8.8	10.2
1949*e*	6.4	7.2	7.7	5.4	N.a.	N.a.	5.3	7.3
% return	4.83	4.17	4.35	6.67	6.36	5.00	4.55	7.27
BALANCE SHEET DATA, 12/31, IN MILLIONS								
Total assets								
1948	$74.65	$87.25	$19.81	$12.95	$8.20	$14.52	$9.00	$10.54
1945	38.05	61.59	8.72	3.36	5.28	11.47	4.64	4.88
1939	N.a.	42.55	4.63	2.21	1.50	6.97	3.55	3.21
Net current assets†								
1948	19.64	23.06	3.33	2.37	1.00	2.07	0.96	1.69
1945	5.67	17.42	1.16	0.63	0.91	2.28	2.25	1.22
1939	N.a.	9.80	0.97	0.21	0.86	0.97	0.56	0.59
Senior securities								
1948	10.93	None	3.86	1.51	None	1.89	0.75	2.50
1945	0.65	3.27	3.03	0.59	None	0.89	0.75	None
1939	N.a.	None	0.82	0.61	None	1.20	0.34	None
Common stock & surplus								
1948	48.82	71.63	9.13	9.67	5.49	10.37	6.63	5.59
1945	21.07	53.29	3.97	2.16	2.63	7.32	3.55	4.79
1939	N.a.	39.35	2.28	1.26	1.23	4.75	2.68	2.89
Common shares now outstanding	4,071,471	4,500,000	1,800,756	640,017	600,000	627,464	599,317	1,400,000
1948 gross sales per com. sh. now outstanding	$37.89	$35.88	$30.07	$36.32	$49.13	$44.13	$42.31	$16.93
1948 book value per common share	11.99	15.92	5.07	15.11	9.14	16.52	11.07	3.99
1948 net working capital (after deduction of senior securities) per common share	2.14	5.12	Def 2.05	1.36	1.67	0.29	0.35	0.21
Current ratio	2.4 to 1	2.5 to 1	1.9 to 1	2.3 to 1	1.4 to 1	1.9 to 1	1.6 to 1	1.8 to 1

N.a.—Not available.
*Year ended Oct. 31.
(*a*) Adjusted for 3 for 1 split in Apr. 1949.
(*b*) Adjusted for 5 for 1 split in Aug. 1947.
(*c*) Adjusted for 100% stock dividend Jan. 1948, and 100% stock dividend Oct. 1949.
(*d*) Adjusted for 100% stock dividend in 1947 and 3 for 1 exchange Nov. 1948.
(*e*) Adjusted for 25% stock dividend Sept. 1949.

†After liability for returnable container.

The largest purchase item is malt and malt products, accounting for nearly 31 pounds of the brewing material used per barrel. A bushelweight of malt for July 1949 averaged 29.1 pounds, so that just over a bushel of malt is used per barrel of malt beverage. Prices of brewer's malt (standard grade at Chicago) in dollars per bushel in recent years have averaged as shown in Table 18. On the basis of 36 pounds of malt products used per barrel in 1939 and an average dry weight of 29.1 pounds, the cost of malt per barrel works out for that year around $1.06, as against 1948 average costs of $1.90. The latter figure is still less than 6 mills per 12-ounce container.

Based on year-end inventory figures, the industry's inventory turnover in relation to net sales (excluding excise taxes) is rapid, averaging 15 times. In this connection it should be borne in mind that December is a relatively low point in seasonal sales volume, and consequently inventory is less than that carried in the more active months. By and large, however, brewing companies have practically no inventory hazards.

Labor Costs. Labor costs are relatively low and have shown no important change in relationship to total value of products shipped, as may be seen from examining Table 19, which is based on the periodic Census of Manufacturers reports.

Breakdown of Costs. From the information given in annual reports, it would appear that the 1948 gross and net sales dollar of the better-managed companies was distributed approximately as indicated in Table 20.

PROFITS PER BARREL SOLD

Table 21 shows gross sales, net sales, net before taxes, and net income per estimated barrel sold. The table brings out considerable variation in sales and profits per barrel for the different companies. The national distributors appear to be in the best position in this respect, followed at some distance by the large regional brewers. The figures bear out the contention in the industry that any sizable reduction in prices by the leading units would cause a large number of regional brewers and local brewers to go out of business.

STATISTICAL DATA

Table 22 gives summary data on sales and earnings records of eight leading brewery companies, together with price-earnings ratios and other financial figures. This table brings out even more clearly the growth trends of individual units in the industry. The majority of the companies listed show sales gains over the past decade of around 400%, increases in net before income taxes of 150% to 800%, and in net income of 400% to 600%. Although the price-earnings ratios are not so low as they were in June, they nevertheless represent a conservative appraisal of the growth potential still ahead for the better-managed companies in the field.

* * *

1837—September 25 . . . In his message of December 1836, the last President was more than usually emphatic upon the great success of his attempts to improve the currency and the happy results of the experiment upon the important business of exchange. But a reverse was at hand. This event, of course, produced great distress in the country and it produced also similar embarrassment for the Administration.

Speech of Daniel Webster

1874—February 28 . . . If money can be had only by exchange, how do impecunious people expect to be benefited by the new issues for which they clamor?"

Carl Schurz

1878—October 23 . . . That an expansion of our irredeemable paper will stimulate business and revive prosperity is, I have no doubt, believed by well meaning people. . . . The restoration of sound money will revive that confidence which is necessary to set all the industrial forces of the country in motion.

Carl Schurz Address

Book Reviews

Investing Is Adventure

by B. Barret Griffith

Barron's Publishing Co., 92 pp, $2.50

So many people are wondering just which signals or relationships have the greatest influence on market movements, and to them this study will come as a great boon. In addition to chapters on relationships and tools for timing, there are two chapters concerned with industry analysis and company analysis. Packed side by side all through the 92 pages are sufficient data to fill a much larger volume.

It is scientific planning, plus study, and judgment, that lead to successful investing, which by the very character of financial undertakings makes investment adventurous. There should be no guesswork in making decisions, for it has been proven that definite yardsticks exist. Mr. Griffith made careful studies of them all and is willing to lay the results of his findings before all analysts. In this undertaking he has been ably assisted by Donald Bruce Ellsworth.

In order to attain profits one should be aware of the importance of the impact of political events on market trends, on a general psychological public reaction, as well as of the worth of the management of individual corporations. And there must be continued study and patience. For it takes time to evaluate issues, to understand when certain types are ready for an upturn, and just when switches ought to be made.

Results of investigations of worth to the author have been the relationship of stock and bond prices, the relationship of stock prices to commodity prices, and the extent of construction. These may be regarded as vital indicators. One of the most important of the inquiries presented in the study, "How Stocks Behave in a Falling Bond Market," indicates conclusively that, on swings of intermediate length such as from a few months to two years, bonds frequently do not turn down before stocks, but for the long cycle the trends in bonds and stocks are independent of each other. And, for both trends, knowing the relative position of stocks, speculative and conservative, assumes importance.

Interest rates as determining factors and psychological impacts as well as construction are fully explained. Charts clarify recognition of indications. These and more items to look for and consider are elucidated with the warning that in all events the stability of the company assumes as great an importance as the market position itself. In addition to underlying conditions some regard may be had for mechanical indicators, but, since the economic signals come before mechanical confirmation, it is certain that trends are fully established by situations not inherent in the market itself so that mechanical signals generally come late.

Study and work and further investigation should, in the words of the author, "bring adventure and profit" to compensate for all labor.

Fundamentals of Investment Banking

Sponsored by Investment Bankers Association of America

Prentice-Hall, 803 pp

In this symposium covering phases of investment banking a fine collection of articles has been assembled. Among the contributors are Jules Bogen, Mason Bogen, Harry Guthmann, Louis Starkweather, and other outstanding financial experts.

In this department are summarized books, articles, and documents of outstanding economic or financial interest. A list of articles, which may be useful to the security analyst, follows the reviews.

Helen Slade is the author of the books reviews. She will co-operate with members of the Society desiring source material for JOURNAL articles and for research projects and studies.

"Industrial and Railroad Reorganization" by Louis Starkweather shows how reorganization should be accomplished, from the reorganization of personnel and reconstruction of plant and equipment, to the elimination of overcapitalization.

Public utilities are analyzed by Thatcher Jones, and another phase by Harry Guthmann. Mason Bogen's chapter covering railroad securities shows their three periods of growth all the way down to the present day, and the requirements of a good road marketwise. Jules Bogen's contribution on "Economics of Investment Banking" is a fine introduction. All sides and variations of investment banking are well done, making this a "must," especially for the younger analysts.

Audit Working Papers

by Maurice E. Peloubet

McGraw-Hill Book Co., 508 pp, $8.50

Some analysts who value corporations from an accounting point of view will find presentation of data easier when papers are properly constructed. "Audit Working Papers" goes far in teaching correct methods of setting forth data. There are all sorts of eventualities considered, including income taxes and different types of companies.

The chapter on inventories has much merit and should be read, especially by appraisers of textile industries. As a desk reference this book has few peers.

The Theory of Fluctuations in Contemporary Economic Thought

by Sidney D. Merlin

Columbia University Press, 168 pp, $2.75

Increased interest in the causes of changing levels of business activity have evoked considerable study and thought during the past twenty years. Since the 1930's much has been written about business fluctuations and unemployment, and there now appears to have evolved a new aspect of economic interest destined to span the gap between cycle and general theory. This idea stresses the vacillations occurring within the system itself and not pressing on it from outside. Equilibrium theories which arose and evolved during the past twenty years are described, explained, and carefully weighed.

As, for example, J. R. Hicks, who "attempted to integrate the theory of money with traditional price analysis in a theory of price movements for the economy at large." For Professor Hicks the stability of the price system is dependent on the effect of elasticities of several expectations which either increase or diminish prices and act as stabilizing forces. But it must be remembered that the expectations described by Hicks are often psychological, and open to question. His wage rate inferences should be read with care and judgment.

Another theory influenced by equilibrium relations is that presented by Maynard Keynes, based on the propensity to consume, full employment, interest rate, and national income. Every change in investment accompanies automatic adjustment of income. "There is no necessary equality between the demand price of output as a whole and the supply price of

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that output." Other theories such as R. F. Harrod's asserting that the cycle is based on a synthesis of the multiplier, and explaining variations in income and ideas of the Swedish economists are excellently portrayed.

Keynes linked relations between marginal efficiency of capital and consumption, whereas the Swedish economists disagreed with the orthodox equilibrium constructions. And Wesley Mitchell said that "men of long experience and proven sagacity often find their calculations upset by conjecture which they could not anticipate." These and other theories are lucidly described.

Mr. Merlin ponders over theories and concludes that each has its place of importance to the understanding of fluctuations, although they do not provide analysis of the business cycle. Equilibrium analysis simplifies some problems without bringing entire comprehension of many of the questions concerning us today, for most enlightenment pertains to short term concepts. We are part of a society whose determinations to buy or sell are a dominant feature of economic activity. This supply and demand relation with equilibrium indicates merely how certain resources may be apportioned over a short period; it does not point out goods available to the economic community, or in what measure their distribution may shift problems. Private enterprise flourishes on new investment and is most often sustained by interaction of long-run factors. Alterations in distribution of income and changes in conditions under which productive capacity may be used can point to "the possibility of chronic long term unemployment" and bring forth the question, "Just what must follow the mounting pressure on profit margins?" Yet it is true that the theory of employment has brought about an insight that may be instrumental to a more complete price analysis. It has illustrated how income flows to different groups, although it throws little light on long term investment activity of changes in productive capacity or on group adjustments to change. Understanding investment implies tracing economic adjustments "back to reactions and relationships, instead of studying the effects alone as they are expressed in prices, investment decisions, and changes in rate of growth." One must endeavor to comprehend more about processes which may reach the entire economy. Certainly after a careful study of this outstanding book students will be better equipped to recognize that for which the analyst should search.

Rumors of Dollar Devaluation

by J. M. Riddle

Bankers Trust Co., New York

In this brochure brought out by the Bankers Trust, Mr. Riddle concludes that a change in the official price of gold is unlikely in the near future. Besides the legal barriers against such action all the benefits made possible to foreign nations would automatically be nullified. Nor would the maladjustment of gold be eased nor the Government debt reduced except-ing by a "monetary trickery," which is a high price for so thoughtless an action. Our Government has "more effective instruments for initiating or stimulating spending or investment." Moreover increasing the price of gold would benefit foreign gold-producing countries including Russia.

Survey of University Business and Economic Research Projects

1947–48, U. S. Dept. of Commerce

Government Printing Office, $1

This sixth edition of "University Business and Economic Research Projects," which is a program of the Department of Commerce to promote utilization of research findings of university schools of business and bureaus of business research whereby research reports of importance may be found, is edited under the supervision of Wilford White, Small Business Division, Office of Domestic Commerce.

Of greatest use to analysts are the industry studies covering public utilities, manufacturing, construction, business finance and banking, business fluctuations, national trade and finance, and taxation. Short abstracts of the items and subjects covered are given, as for example "Sources of Investment Capital," a thesis by Frank Graner, which shows how 65 large corporations get their funds for expansion. These short notations show where detailed materials may be had and where persons can be found to conduct such specialized research.

* * *

1837—September 4. . . The history of trade in the United States for the last three or four years affords the most convincing evidence that our present condition is chiefly to be attributed to overaction in all the departments of business.

President Van Buren

1850—May . . . "Spirit of speculation" and plethora of funds. In New York . . . "A number of our citizens organized themselves into an association for the purpose of attempting suppression of gambling, especially in New York."

1869—May 10 . . . The Open Board of Stock Brokers consolidated with the Stock Exchange.

Recent Books, Documents, and Magazine Articles of Financial Interest*

Monetary and Fiscal Subjects

Recovery in Bank Loans, Federal Reserve Bank of Kansas City, Nov 30, 1949.

The Stability of Demand Deposits, *American Economic Review,* Dec 1949.

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Bank Liquidity and the New Doctrine of Anticipated Income, *Journal of Finance,* Dec 1949.

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Cutting Distribution Costs, *Conference Board Business Record,* Dec 1949.

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The Personal Income Tax and Business Enterprise, *Annals,* Nov 1949.

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Co-ops in Education, *American Swedish Monthly,* Nov 1949.

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Machinery Business Starts Climb Back, *Business Week,* Nov 26, 1949.

The Pecan Industry, *Federal Reserve Bank of Atlanta Monthly,* Oct 1949.

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Industry Needs More Forest Economists, *Journal of Forestry,* Nov 1949.

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*All articles and documents listed in this section may be found in the economics division, room 228, of the New York Public Library.

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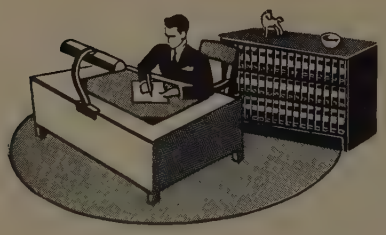

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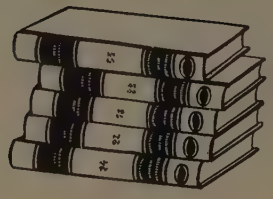

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- Depreciation
- Competitive Bidding
- Rate of Return
- Valuation
- Sinking Fund Requirements

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Security Analysts of San Francisco

THE SECURITY ANALYSTS OF SAN FRANCISCO have completed a most successful year in 1949 under the leadership of President Earl L. Sever. Since our last report to The ANALYSTS JOURNAL we have had the following speakers at monthly dinner meetings:

Herbert V. Alward, vice-president of Bank of California and president of California State Bankers Association.

Hudson R. Searing, president of Consolidated Edison Co. of New York; Harold S. Sutton, treasurer; and Sherman M. Hall, assistant to the president.

Harold Quinton, executive vice-president of Southern California Edison Co.

Philip S. Fogg, president of Consolidated Engineering Co.

H. W. Morrison, president of Morrison-Knudsen Co.

Our semimonthly group forum meetings, initiated for the first time in 1949, were featured by active participation of the membership throughout the year. The round table discussions covered a wide range of subjects including the business and market outlook, interest rates, stocks recommended for sale or purchase, and public utility breakups. Guest speakers at special forum sessions included:

Emery N. Cleaves, assistant to the president of Celanese Corp. of America.

Russell A. Kent, vice-president of Bank of America.

Dwight P. Robinson, trustee of Massachusetts Investors Trust.

Edward C. Johnson, president of Fidelity Fund.

Phillip J. Fitzgerald, partner in charge of research, Dean Witter & Co.

A major accomplishment of 1949 was the complete revision of the Constitution of the Security Analysts of San Francisco which was approved at the annual business meeting in December. The formation of standing committees was approved, appointments to which will be announced in connection with the publication of our official report for 1949 in the near future. Officers elected for 1950 are:

President—Richard W. Lambourne, Dodge & Cox
Vice-President—John R. Beckett, Blyth & Co.
Secretary-treasurer—William P. Held, J. S. Strauss & Co.

Other members on the Board of Governors for the ensuing year are:

Earl L. Sever, Davies & Mejia
Earl Richards, Dean Witter & Co.
Herbert Drake, Anglo-California National Bank
John G. Eidell, Shuman, Agnew & Co.

An ambitious program for 1950 has been planned with emphasis on meetings with top executives of national concerns. We are also making a drive to enlarge the membership roster by new admissions of properly qualified analysts in this area.

The following members were appointed in 1949 as directors for the National Federation of Financial Analysts Societies:

Class A—1 year term, (and vice-president): Thomas J. Tasso
Class B—2 year term: Earl L. Sever
Class C—3 year term: Richard W. Lambourne

The Security Analysts of San Francisco are anxious to co-operate to the fullest extent in furthering the objectives of the National Federation. A delegation of several members will attend the forthcoming annual meeting in New York. We urge that officials of other constituent Societies contact us if planning to visit in San Francisco. Members of the other Societies will of course be welcome at our meetings, details on which can be obtained by calling any of our officers.

WILLIAM P. HELD
Secretary-Treasurer

Boston Security Analysts Society

ATTENDANCE AT LUNCHEON FORUM MEETINGS of the Boston Society has been running around 100 and at some meetings as high as 125. In recognition of this attendance, the Union Oyster House, where meetings are held, is opening a new dining room especially designed and decorated for the use of the Society. Meetings beginning the first of 1950 are being held in the new and enlarged banquet quarters, which should prove pleasant for both membership and speakers. The list of weekly luncheon forum talks appears on page 47.

Many members of the Society attended an interesting program arranged to acquaint the membership with research activities being carried on at Massachusetts Institute of Technology. At a luncheon meeting they were briefed on some of the research projects under way at MIT and the relationship between this research and commercial application. In the afternoon, groups toured various laboratories and watched demonstrations and heard further talks and discussions on developments in the world of science. The executive committee of the Society is planning more field trips to "Research Row" in Cambridge. Other field trips arranged by the Society for its membership included an inspection tour of the new electric station of the Cambridge Electric Light Company and an inspection of the gas works and a discussion by operating personnel of developments in the gas field and the effects of the introduction of natural gas into New England. The telephone company, in connection with the opening of the new long-distance toll dialing building, conducted a series of special tours for the membership.

The Boston Security Analysts Society continues to lay stress on its educational and training activities and is again conducting, in conjunction with Northeastern University, a course in industrial analysis. The courses are conducted on a high educational plane. Attendance is limited to approximately 40 students.

Several of the traveling members of the Society report having attended interesting meetings of Societies outside of Boston, including Detroit, Chicago, and New York. Boston is looking forward to the National Federation Annual Meeting in New York in March and expects as usual to have a large delegation present.

KENNARD WOODWORTH

Membership Directory Changes

Through an error the following member's name was not included in the *Directory*:

ROBERTS, Maxwell B.
Dreyfus & Co., 50 Broadway, N. Y. 5

Changes in Address—Oct 11, 1949 to Jan 9, 1950
(*New Address Only Shown Below*)

ADAMS, Mark I.
Brand, Grumet & Tenser, 150 Broadway, N. Y. 7

ALEXISSON, Gustave A.
Cranbery, Marache & Co., 52 Broadway, N. Y. 5

BAILEY, Kennedy B.
Fahnestock & Co., 205 Church St., New Haven, Conn.

BENDER, William
37 Francis Lane, Port Chester, N. Y.

BENNET, Alden S.
W. C. Langley & Co., 115 Broadway, N. Y. 6

BIEL, Heinz H.
Emanuel, Deetjen & Co., 120 Broadway, Suite 1325, N. Y. 5

BRASSLER, Norman
Paterson Savings & Trust Co., Paterson, N. J.

BUCCINI, John J.
A. C. Allyn & Co., 40 Wall St., N. Y. 5

COHN, Sidney D.
Spiegelberg, Feuer & Co., 30 Broad St., N. Y. 4

DICKINSON, Miss Helen E.
Gartley Forecast, 68 William St., N. Y. 5

CONKLIN, G. Howard
Laurence M. Marks & Co., 40 Wall St., N. Y. 5

DUGAN, William E.
Laidlaw & Co., 25 Broad St., N. Y. 4

EVANS, David
165 Broadway, N. Y. 6

FLORO, Constance J.
c/o Dean Langmuir, 90 Broad St., N. Y. 4

FORSDICK, H. W.
Laidlaw & Co., 25 Broad St., N. Y. 4

FOWLER, John F. Jr.
Dillon, Read & Co., 46 William St., N. Y. 5

GARTLEY, Harold M.
Gartley & Associates, 68 William St., N. Y. 5

GRAHAM, Leon W.
Bruns Nordeman & Co., 60 Beaver St., N. Y. 6

GREENE, Charles T.
Dresser & Escher, 111 Broadway, N. Y. 6
(Mail addressed home)

HIKE, Rowland C.
Stat. Bond, Prudential Insurance Co. of America,
763 Broad St., Newark, N. J.

HOLBROOK, Edward W.
U. S. Trust Co. of New York, 45 Wall St., N. Y. 15

JAVITS, Benjamin A.
Javits & Javits, 630 Fifth Ave., N. Y. 20

LAIDLAW, Henry B.
Laidlaw & Co., 25 Broad St., N. Y. 4

LANN, R.
Wolfe & Co., 60 Beaver St., N. Y. 4

LAUFER, Edward B.
L. F. Rothschild & Co., 120 Broadway, N. Y. 5

LEIF, Lawrence
R. M. Horner & Co., 52 Broadway, N. Y. 4

LEON, William G.
Stanley Heller & Co., 30 Pine St., N. Y. 5

LEASON, Jack W.
Shields & Co., 44 Wall St., N. Y. 5

LEDDA, John J.
Laidlaw & Co., 25 Broad St., N. Y. 4

LUSSEY, Harry W.
J. A. Ritchie Co., 52 Wall St., N. Y. 5

LYNCH, Andrew F.
Mallory, Adee & Co., 120 Broadway, N. Y. 5

MEARS, Mrs. Elizabeth B.
6608 102 St., Rego Park, N. Y.

MILNE, Miss Matilda L.
Monetary Affairs Staff, Department of State,
Washington 25, D. C.

MURPHY, Leo J. C.
Riter and Co., 40 Wall St., N. Y. 5

MURTHA, Edward J.
205 East 17 St., Brooklyn 26, N. Y.

PETERS, Frederick S.
Laidlaw & Co., 25 Broad St., N. Y. 4

PHELPS, Thomas W.
Socony-Vacuum Oil Co., 26 Broadway, N. Y. 4

PRUDDEN, Russell F.
Prudden's Digest, 120 Broadway, N. Y. 5

PRYOR, Thomas C.
White Weld & Co., 40 Wall St., N. Y. 5

RALSTON, Andrew W.
Irving Trust Co., 1 Wall St., N. Y. 15

RICH, Morris
Paine Webber Jackson & Curtis,
626 South Spring St., Los Angeles, Calif.

ROWE, F. Leslie
Manhattan Research Associates, 48 Wall St., N. Y. 5

SCHUMACHER, Alan T.
Empire Trust Co., 580 Fifth Ave., N. Y. 19

SCHWARZ, Lester
NAIC, Committee on Valuation of Securities,
61 Broadway, N. Y. 6

SCHWEITZER, Vernon A.
419 West 118 St., N. Y. 27

SHURTLEFF, Otis L.
Laird, Bissell & Meeds, 120 Broadway, N. Y. 5

STRONG, Mrs. Ruth H.
Prentice Strong & Co., 860 Pequot Rd., Southport, Conn.

SWEETSER, Frank Eliot
Dean Witter & Co., 14 Wall St., N. Y. 5

TERWILLIGER, D. L.
Richard W. Clarke & Co., 527 5th Ave., N. Y. 17

THAYER, Hollis K.
Dominick & Dominick, 14 Wall St., N. Y. 5

TITUS, George L.
National Securities & Research Corp.,
120 Broadway, N. Y. 5

URBAN, William H.
Bacon, Stevenson & Co., 39 Broadway, N. Y. 6

WATSON, Gavin H.
5 East 44 St., N. Y. 17

WHITE, H. Carleton
Bankers Trust Co., 16 Wall St., N. Y. 15

WHITE, Thomas Jefferson
2485 Union St., San Francisco, Calif.

WILSTEAD, Gerald L.
Chemical Bank & Trust Co., 30 Broad St., N. Y. 15

WINTERMUTE, Mrs. Mary L.
Standard & Poor's Corp., 345 Hudson St., N. Y. 14

Resignations

BING, Ralph A.
Fitch Investors Service, 120 Wall St., N. Y. 5

GRAVEN, James DeG.
Brown Bros., Harriman & Co., 59 Wall St., N. Y. 5

HERRMANN, Arthur L.
285 Travers Pl., Lyndhurst, N. J.

HOWELL, Alfred H.
17 East 42 St., N. Y. 17

MacNEILL, Earl S.
Irving Trust Co., 1 Wall St., N. Y. 15

McGEE, Cushman
R. W. Pressprich & Co., 68 William St., N. Y. 5

STRESEMANN, Hans Joachim
Chase National Bank, 11 Broad St., N. Y.

Luncheon Forum Talks

BOSTON SECURITY ANALYSTS SOCIETY

SINCE SEPTEMBER 26, 1949

Date	*Speaker*	*Topic*
Sept 26	Harold B. Dorsey President, Argus Research Corp.	The Business Outlook
Oct 3	Elmer G. Gover Vice-president and treasurer of company	Fruehauf Trailer Co.
Oct 10	Reuben B. Robertson, Jr. Executive vice-president of company	Champion Paper and Fiber Co.
Oct 18	J. M. Symes Operational vice-president of company	Pennsylvania R. R.
Oct 24	Charles F. Myers, Jr. Vice-president of corporation	Burlington Mills Corp.
Oct 31	J. G. Holtzclaw President of company	Virginia Electric & Power Co.
Nov 7	G. G. Main Treasurer of corporation	Westinghouse Electric Corp.
Nov 14	L. A. Warren President and treasurer of company	Safeway Stores
Nov 21	P. W. Pillsbury President of company	Pillsbury Mills
Nov 28	J. A. Cogan Head, economics dept., Standard Oil Co. of N. J.	The International Oil Situation
Dec 5	T. L. Daniels	Archer-Daniels-Midland Co.
Dec 12	Mortimer E. Sprague Vice-president of company	Home Insurance Co.
Dec 19	James F. Oates, Jr. Chairman of company	People's Gas, Light & Coke Co.

Luncheon Forum Talks

NEW YORK SOCIETY OF SECURITY ANALYSTS

SINCE NOVEMBER 22, 1949

Date	*Speaker*	*Topic*
Nov 22	D. A. Hulcy President of company	Lone Star Gas Company
Nov 23	H. R. Walton President of company	Hiram Walker-Gooderham & Worts Ltd.
Nov 28	J. H. Dunn President of corporation	Shamrock Oil & Gas Corp.
Nov 29	G. S. Montgomery, Jr. Partner, Coudert Bros.	The Return of Adam Smith
Nov 30	M. H. Fies Manager, coal operations Introduction by Thomas Martin Alabama Power Co.	Underground Gasification of Coal
Dec 1	R. G. Lizars Chairman and president of corporation	Certain-Teed Products Corp.
Dec 2	P. S. Fogg President of corporation	Consolidated Engineering Corp.
Dec 5	G. T. Baker Chairman and president of company	National Airlines, Inc.
Dec 6	Frank Rising General manager, Automotive & Aviation Parts Manufacturers	Current Developments in the Auto Industry
Dec 8	E. C. Geier President of corporation	Duplan Corp.
Dec 12	Octave Blake President and general manager	Cornell-Dubilier Electric Corp.
Dec 14	McGregor Smith President of company	Florida Power & Light Co.
Dec 15	C. B. Peck Editor of *Railway Mechanical Engineer*	Railway Equipment Outlook for 1950
Dec 16	Dr. Julius Hirsch Economist	The Federal Deficit and National Production
Dec 20	T. C. Davis Treasurer of company	E. I. DuPont de Nemours & Co.
Dec 21	A. F. Tegen President of corporation	General Public Utilities Corp.
Jan 4	W. A. Jones President of company	Cities Service Co.
Jan 6	R. T. Hurley President of corporation P. V. Shields Chairman of board	Curtiss-Wright Corp.
Jan 10	J. W. Corey President of company	Reliance Electric & Engineering Co.
Jan 11	L. C. Peters Vice-president of company	Laclede Gas Light Co.
Jan 12	L. H. Lindeman Financial vice-president W. G. Elicker Secretary of company Robert Fisher Treasurer of company	Texas Co.
Jan 13	H. S. Sutton Treasurer of company Introduction by Charles Delafield Assistant to president	Consolidated Edison Co. of N. Y.
Jan 16	T. M. Martin President of company	Lion Oil Co.
Jan 17	H. G. Ritter III Chairman executive committee	Thomas A. Edison, Inc.
Jan 18	C. T. Chenery Chairman of company Introduction by H. M. Erskine Vice-president of company	Southern Natural Gas Co.
Jan 20	Newell Fowler Security analyst, James Richardson & Son	The Western Canadian Oil Picture—or More Oil for the Western Democracy
Jan 23	W. A. Stewart President of company G. E. Baskie Treasurer of company Albert Steg Controller of company	American Optical Co.
Jan 24	Saul Smerling Railroad editor, Standard & Poor's Corp.	Railroad Outlook for 1950.

An Important Announcement to Investors

HE VALUE LINE INVESTMENT SURVEY is now render-ng continuous year 'round supervision over 527 common stocks 65% increase over the list of 320 hitherto supervised.

The increase comes at an opportune moment. During times of ge and re-adjustment like the present, the danger of large al loss goes hand in hand with the opportunity for exceptional t and income. At such times, investors find it advantageous to w a standard of value that is actuarially determined and com-ly objective, as are the Value Line Ratings. And whether you st in one stock, five, or fifty, it is important to choose from a d field of values.

Investors will recall another period of crisis and change in 1940-1942. It was difficult then, as it was until very recently, to believe the evidence of undervaluation. Misleading headlines kept stock prices low even though the earnings and dividend outlook called for higher prices. For example: Atchison sold at 15, International Telephone sold at 2, Aluminum Co. of America at 29, although all were shown by the Value Line Rating to have normal value far higher.

Time has demonstrated again that VALUE prevailed. Atchison rose to 100—up 600%. International Telephone went to 17 —up 700%. Aluminum Co. rose 200%. Investors who followed value, rather than misleading "sentiment", profited from bargain opportunities in temporarily undervalued stocks. Evidence of undervaluation was equally emphatic during 1947, 1948 and 1949.

More and more institutional and individual investors refer to raphic Value Line Ratings for quick, unprejudiced indications *hich stocks are currently most undervalued and which over-d.* All influences affecting the value of a common stock—good ad, political, military, fiscal and social—are reduced to a common denominator: *the net effect upon earnings available for dividends.* In the end, it is earning power that determines the value of the stocks you buy and own.

The Value Line interprets the facts with no axe to grind but your own. It estimates future earning power and indicates the normal future price, based upon earnings, *projected 6 to 12 months in advance.* You can see at a glance which stocks are dear and which cheap. Specific recommendations help you judge the proper action for your own portfolio.

Sentiment and technical conditions also affect prices. But it is just because stocks **do** *deviate at times from normal value (as so many do at the present time) that you have opportunities to go contrary to the crowd—to disregard mob optimism and panic—to buy cheap and sell dear. You can buy stocks with conviction when you see for yourself by reference to a mathematical rating line that they are priced* **under** *the line of value; you can sell with conviction when you see your stocks* **above** *the line of value.*

That there is a definite mathematical advantage in lining your investments up with the pull of value may be seen from results of ALL Value Line recommendations, as audited by a firm of Certified Public Accountants. The Value Line Survey is, to the best of our knowledge, the only published investment service which periodically issues audited reports of its recommendations.

Your capital can take care of you; it cannot take care of itself. THE VALUE LINE INVESTMENT SURVEY would serve as your collater of facts and your analyst, boiling down the multitude of influences upon stock prices to a single line of value. With a minimum expenditure of your own time and effort, you could see for yourself the areas of overvaluation and undervaluation and select the best stocks in the most favored industries.

Features of the Enlarged Value Line Survey

S & REPORTS: weekly, covering 40 the 527 stocks in the Value Line e cycle of all 527 stocks is com-very 12 weeks. Each Report brings nings and dividend estimates for d 1950 and shows you the normal elated thereto. (*Value Line earn-nates made 12 to 18 months ahead arliest and, by test, the most accu-lished.*) The Rating chart shows parison between current price and value, enabling you to see at a hich of the stocks is cheap or dear.

SUPPLEMENT: to post you up to new developments or recommen-between the time of the regular

S OF STOCK OWNERSHIP BY ATE OFFICERS: a new feature of ck report. THE VALUE LINE analyzes the stock ownership of the management of the companies and points out which of the competing companies in an industry have the backing of their management's own money.

SPECIAL SITUATIONS: year 'round supervision over 50 or more special situations (unusual opportunities in defaulted bonds, preferred stocks with arrears, over-the-counter bargains), *plus one new situation recommended monthly.*

SUPERVISED ACCOUNT: monthly, giving *advance* notice to subscribers of changes to be made in the Value Line's model account.

FORTNIGHTLY COMMENTARIES: twice monthly analyses of economic, political and social developments affecting the value of your investments.

Take Advantage of This Special Good Will Offer

TO give you an opportunity to see the enlarged VALUE LINE SURVEY, an introductory offer brings you all releases for the next 4 weeks for only $5.00, including Ratings & Reports on some 180 stocks in 14 industries. *Send $5.00 to Dept. AJ-1.*

NEW subscribers who wish to enroll for a 6-month trial now will receive *at once and at no extra cost* current Ratings & Reports covering next year's normal values, earnings and dividends of all 527 supervised stocks. These are filed in two binders which become your property. In this way you can check at once where the best values are to be found. *Send $52.00 to Dept. AJ-1 for this 6-month offer.*

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ALUE LINE SURVEY BUILDING 5 EAST 44TH STREET, NEW YORK 17

Mr. A. C. Karr
949 Malcolm Avenue
Los Angeles 24, Calif.

JA

STATEMENT OF CONDITION, DECEMBER 31, 1949

RESOURCES

Cash and Due from Banks	$1,280,491,136.21
U. S. Government Obligations	1,819,414,477.29
State and Municipal Securities	109,677,778.28
Other Securities	127,537,703.57
Loans, Discounts and Bankers' Acceptances	1,350,507,126.46
Accrued Interest Receivable	10,658,859.01
Mortgages	28,945,703.57
Customers' Acceptance Liability	20,011,774.54
Banking Houses	29,593,355.13
Other Assets	2,851,906.09
	$4,779,689,820.15

LIABILITIES

Deposits		$4,384,572,390.61
Dividend Payable February 1, 1950		2,960,000.00
Reserve for Taxes and Other Expenses		13,840,657.51
Other Liabilities		11,182,844.50
Acceptances Outstanding	$ 23,621,031.88	
Less Amount in Portfolio	1,875,378.05	21,745,653.83
Capital Funds:		
Capital Stock (7,400,000 Shares—$15 Par Value)	$111,000,000.00	
Surplus	189,000,000.00	
Undivided Profits	45,388,273.70	
		345,388,273.70
		$4,779,689,820.15

United States Government and other securities carried at $321,043,912.00 are pledged to secure public and trust deposits and for other purposes as required or permitted by law.

THE CHASE NATIONAL BANK

OF THE CITY OF NEW YORK

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